



Arlington Conservation Commission

Date: Thursday, April 3, 2025

Time: 7:00 PM

Location: Conducted by Remote Participation and In Person at 27 Maple Street, Arlington, Second Floor.

Please register in advance for this meeting. Reference materials, instructions, and access information for this specific meeting will be available 48 hours prior to the meeting on the Commission's agenda and minutes page. This meeting will be conducted in a remote format consistent with An Act Extending Certain COVID-19 Measures Adopted During the State of Emergency, which further extends certain COVID-19 measures regarding remote participation in public meetings until June 30, 2027. Please note: Not all items listed may in fact be discussed and other items not listed may be brought up for discussion to the extent permitted by law. This agenda includes those matters which can be reasonably anticipated to be discussed at the meeting.

Agenda

1. Administrative
 - a. Review Meeting Minutes.
 - b. Correspondence Received.
2. Discussion
 - a. Forest School Update.
 - b. 65 Spy Pond Lane Certificate of Compliance Reissuance.
 - c. Enforcement Order: 335 Mystic Street.
 - d. Water Bodies Working Group.
 - e. CPA Committee Liaison.
 - f. Tree Committee Update.
 - g. Symmes Conservation Restriction.
3. Hearings

DEP #091-0368 - Notice of Intent – 15 Ryder Street (Continued from 03/20/25).

DEP #091-0368 - Notice of Intent – 15 Ryder Street (Continued from 03/20/25).

The Arlington Conservation Commission will hold a public hearing to consider a Notice of Intent (NOI) under the Wetlands Protection Act and Arlington Bylaw for Wetlands Protection for construction of a brewery and beer garden at 15 Ryder Street. The jurisdictions that are part of the proposal are Riverfront Area, Buffer Zone, and Adjacent Upland Resource Area.

DEP #091-0367: Notice of Intent: 995 Massachusetts Avenue.

DEP #091-0367: Notice of Intent: 995 Massachusetts Avenue.

The Conservation Commission is expected to continue this hearing to the meeting of May 1st, 2025.



Town of Arlington, Massachusetts

Correspondence Received.

Summary:

Correspondence Received.

ATTACHMENTS:

Type	File Name	Description
□ Reference Material	Correspondence_Received_-_Alex_Tee_-_15_Ryder_Street.pdf	Correspondence Received - Alex Tee - 15 Ryder Street.pdf

David Morgan

From: Alex Tee <alex.k.tee@gmail.com>
Sent: Thursday, March 20, 2025 10:03 PM
To: ConComm
Subject: March 20th - 15 Ryder Street

Categories: ConCom Correspondence

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good Evening Susan, Mike, Dave, Brian, Nathaniel, Charles and David,

As a community member who has sat through their fair share of board meetings, I very much appreciate the dialogue that occurred tonight. The objectivity and aspiration to understand what 'good enough' looks like within the context of subjective terminology like 'practicable' is no easy task, but it's important as we wrestle with climate change, where each of us has to think if we're doing enough.

The one area I would like to emphasize is the pollution plan. Ryder Street is unique in that it is used a variety people each day, with varying degrees of accountability to the space itself, and as a private street it is incumbent upon us as residents to keep it clean. We have great concern that inviting 200+ guests into our neighborhood 7-nights a week until 11pm, we are anxious about walking out the door each morning confronted by patrons debris.

Again I don't think it's a big lift to create a maintenance plan to prevent chip bags, cigarette butts and other debris from blowing into the Mill Stream or our backyards, but it's an important need to consider and there has been no plan shared to date so thank you for raising that as a concern. Ideally there would be an objective measure or standard to reference rather than rely on a theoretical sweeping schedule, but with our neighborhood supporting 500% more residents than two-years ago, keeping our driveways and front-yards clean has become a daily chore where it was once monthly.

Thank you for your advocacy and holding a collaborative space that makes our community better.

Sincerely,
Alex



Town of Arlington, Massachusetts

65 Spy Pond Lane Certificate of Compliance Reissuance.

Summary:

65 Spy Pond Lane Certificate of Compliance Reissuance.

ATTACHMENTS:

Type	File Name	Description
<input type="checkbox"/> Reference Material	65_Spy_Pond_Lane_Certificate_of_Compliance.pdf	65 Spy Pond Lane Certificate of Compliance

Commonwealth
of Massachusetts

(To be provided by DEP)

City Town ArlingtonApplicant John DeLeo**Certificate of Compliance****Massachusetts Wetlands Protection Act, G.L. c. 131, §40
and Arlington Local By-Law, Chapter 40, Section 32**From Arlington Conservation Commission Issuing AuthorityTo John DeLeo 65 Spy Pond Lane, Arlington
(Name) (Address)Date of Issuance August 18, 1994

This Certificate is issued for work regulated by an Order of Conditions issued to John & Mary Deleo dated 9/25/90 and issued by the Arlington Conservation Commission and the Amended Enforcement Order 7/19/91 and Enforcement Order

1. It is hereby certified that the work regulated by the above-referenced Order of Conditions has been satisfactorily completed.
2. It is hereby certified that only the following portions of the work regulated by the above-referenced Order of Conditions have been satisfactorily completed: (If the Certificate of Compliance does not include the entire project, specify what portions are included.)
3. It is hereby certified that the work regulated by the above-referenced Order of Conditions was never commenced. The Order of Conditions has lapsed and is therefore no longer valid. No future work subject to regulation under the Act may be commenced without filing a new Notice of Intent and receiving a new Order of Conditions.

(Leave Space Blank)

Attachment: Certificate of Compliance DEP File No. 91-88

From: Arlington Conservation Commission
To: John DeLeo, 65 Spy Pond Lane, Arlington
August 18, 1994

For the protection of the following interests: public water supply, ground water supply, flood control, storm damage prevention, prevention of pollution, fisheries, and protection of wildlife habitat:

The restoration plan accepted 11/7/91 by the Arlington Conservation Commission, following the unauthorized stripping of vegetation from and regrading of the property, shall be continued as follows:

For a distance of at least 30 (thirty) feet from the shoreline, the property shall be maintained fully vegetated with trees, shrubs, perennial groundcovers and herbaceous plants, NOT TO INCLUDE MOWED GRASS.

4. This certificate shall be recorded in the Registry of Deeds or the Land Court for the district in which the land is located. The Order was originally recorded on 11/27/90 (date) at the Registry of Middlesex, Book 1124, Page 140. Document No. 833513
5. The following conditions ~~of the Order~~ shall continue: (Set forth any conditions contained in the Final Order, such as maintenance or monitoring, which are to continue for a longer period.)

See Attached single Page

Issued by Arlington Conservation Commission

Signature(s) _____

Susan Best Richard H. Sorensen
Geraldine Tremblay Land & Chapter
Stephanie Mattingly

When issued by the Conservation Commission this Certificate must be signed by a majority of its members.

On this 18th day of August, 1994, before me personally appeared Geraldine Tremblay, to me known to be the person described in and who executed the foregoing instrument and acknowledged that he/she executed the same as his/her free act and deed.

Susan Best
Notary Public

Aug 19, 1994
My commission expires

Detach on dotted line and submit to the _____

To _____ Issuing Authority

Please be advised that the Certificate of Compliance for the project at: _____

File Number _____ has been recorded at the Registry of _____

and has been noted in the chain of title of the affected property on _____, 19_____

If recorded land, the instrument number which identifies this transaction is _____

If registered land, the document number which identifies this transaction is _____

Signature _____ Applicant



Town of Arlington, Massachusetts

Enforcement Order: 335 Mystic Street.

Summary:

Enforcement Order: 335 Mystic Street.

ATTACHMENTS:

Type	File Name	Description
□ Reference Material	335_Mystic_Street_-_Note_from_Louise_Piazza.pdf	335 Mystic Street - Note from Louise Piazza.pdf

David Morgan

From: LOUISE PIAZZA <luizafashions@comcast.net>
Sent: Thursday, February 20, 2025 1:52 PM
To: David Morgan
Subject: Fwd: Pictures of hill
Attachments: IMG_4238.jpg; IMG_4240.jpg

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi David, these are the other attached photos taken October 26, 2025.

Also noted on the enforcement order you mention "restoration of sumac grove. The vegetation is "Japanese Knotweed" which according to the
https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fISSG.org&c=E,1,pxO4jDB1HYw4x9EXkEtISPfgMxb1M-RhV02HfTskc0N70BPENi3InZ-bXPbNPKFN8RQP5VmNc-OuXDak_gEUNJGjRB8Alxz1zln1By2Xb1chW4ydBB4-&typo=1 is a very invasive species in this area.

Louise Piazza

> ----- Original Message -----

> From: "Hall, Chris" <Chris.Hall@Arbella.com>

> To: "luizafashions@comcast.net" <luizafashions@comcast.net>

> Date: 12/16/2024 10:53 PM EST

> Subject: Pictures of hill

>

>

> And here are the other two. I took all these pictures on October 26th

>

> From:6174707710@vzwpix.com <6174707710@vzwpix.com>

> Sent: Saturday, December 14, 2024 6:10 PM

> To: Hall, Chris <Chris.Hall@Arbella.com>

> Subject:

> This email message is intended only for the addressee(s) and contains information that may be confidential. If you are not the intended recipient please notify the sender by reply email and immediately delete this message. Use, disclosure or reproduction of this email by anyone other than the intended recipient(s) is strictly prohibited.

David Morgan

From: LOUISE PIAZZA <luizafashions@comcast.net>
Sent: Thursday, February 20, 2025 1:43 PM
To: David Morgan
Subject: enforcement order conservation committee
Attachments: back hill mystic street 001.jpg

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi David Morgan,

Attached is a photo taken approximately 1999-2000. I have also attached recent photos taken October 2024. This earlier photo proves the property is similar to the way it was back then. I have not clear-cut or removed any trees or vegetation on the property. I have trimmed, but not removed, the Knotweed as I have always done. It is invasive, as you know, and it does grow back each and every year because I do not uproot it. Due to the neighbors leaving the property unmanageable, my property appears to look like I have cut down trees, which is not the case. The fact is, this is the way the property has always been for years now. I would appreciate your consideration in this matter and I look forward to speaking with you about this.

Respectfully,
Louise Piazza

The other 2 photos taken on October 2025 will arrive shortly.

Louise Piazza



Town of Arlington, Massachusetts

DEP #091-0368 - Notice of Intent – 15 Ryder Street (Continued from 03/20/25).

Summary:

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The Arlington Conservation Commission will hold a public hearing to consider a Notice of Intent (NOI) under the Wetlands Protection Act and Arlington Bylaw for Wetlands Protection for construction of a brewery and beer garden at 15 Ryder Street. The jurisdictions that are part of the proposal are Riverfront Area, Buffer Zone, and Adjacent Upland Resource Area.

ATTACHMENTS:

Type	File Name	Description
Reference Material	NOI_Narrative_-_15_Ryder_St_-_Arlington_MA_(2025-03-26).pdf	NOI Narrative - 15 Ryder St - Arlington, MA (2025-03-26).pdf
Reference Material	NOI_Plan_Set_-_15_Ryder_Street_-_Arlington_MA_(2025-03-26).pdf	NOI Plan Set - 15 Ryder Street - Arlington, MA (2025-03-26).pdf
Reference Material	SW_Report_-_15_Ryder_Street_-_Arlington_MA_(2025-03-26).pdf	SW Report - 15 Ryder Street - Arlington, MA (2025-03-26).pdf



NOTICE OF INTENT NARRATIVE

To: Town of Arlington Conservation Commission
David Morgan / Environmental Planner & Conservation Agent

From: Sam T Malafronte, PE / Solli Engineering, LLC

Subject: Notice of Intent
Proposed Site Improvements
Arlington Brewing Company
15 Ryder Street, Arlington, MA
Project No.: 25200801

Date: 03/04/2025

Revised: 03/26/2025

CC: Tom Allen (Founder) / Arlington Brewing Company

Solli Engineering (Solli) has prepared this Notice of Intent Narrative (Narrative) to summarize the proposed project for the Arlington Brewing Company located at 15 Ryder Street (MBLU: 57-2-11) in Arlington, Massachusetts. The project has been designed in compliance with the Town of Arlington Wetland Protection Regulations and the Massachusetts Wetlands Protection Act (*310 CMR 10.00 Wetlands Protection Act*). For more information beyond the information provided below, refer to the NOI Permitting Plan Set and Stormwater Report submitted in conjunction with this Narrative.

1. Description of the Project

The Applicant, Arlington Brewing Company, is proposing a $960\pm$ square-foot addition, a new $2,630\pm$ square-foot Beer Garden, landscaping and fencing improvements, and several pedestrian friendly features at the property of 15 Ryder Street (MBLU: 57-2-11) in Arlington, Massachusetts. The project will result in a total land disturbance of approximately $6,005\pm$ square-feet, all of which is located within the previously developed 200' Riverfront Area of the Mill Brook.

2. Existing Site Conditions

The Site, located along the eastern corridor of Ryder Street, consists of a $1.049\pm$ acre parcel that is fully developed and improved with a $4,000\pm$ square-foot, single-story, masonry building with associated paved areas surrounding the building. The Site is bound by Ryder Street to the west and commercial development to the south, east and north. Approximately 30' to the south of the Site is the Mill Brook that traverses the area from west to east within a concrete conduit.

3. Regulated Areas

Existing Soil Conditions - According to soil survey mapping, obtained from the Natural Resource Conservation Service (NRCS), the surface soils on the Site include "Merrimac-Urban Land" and "Udorthents". Merrimac-Urban Land has a specified hydrologic rating of "A", but Udorthents have a wet substratum. For more information regarding the surface soil conditions of the Site, refer to the enclosed Figure 2 - Soil Survey Map.

FEMA Floodplain - According to FEMA Flood Insurance Rate Map, Map Number 25025C0017K, effective date July 3, 2024, the Site is partially within a Zone X Shaded area which is an area with an annual flood risk between 1% and 0.2%. For more information regarding the FEMA floodplains refer to the enclosed Figure 3 - FEMA Flood Map and the Boundary, Topographic, and Utility Survey submitted within the NOI Permitting Plan Set.

Endangered and Rare Species - According to online mapping provided from the Massachusetts Department of Environmental Protection (MassDEP) ArcGIS Endangered and Rare Species Protection areas, the Site is not located with an Endangered and Rare Species Protection Area. For more information, refer to the enclosed Figure 4 – Endangered and Rare Species Map.

4. Wetland Resource Areas

As previously stated, approximately 30' to the south of the Site is the Mill Brook which is a perennial stream. The Mill Brook traverses from west to east and in this location is delineated by two concrete walls. The limits of the Brook (concrete conduit) have an associated 200' Riverfront Area perpendicular to the stream limits in accordance with 310 CMR 10.58. The property is entirely developed, largely improved with impervious surfaces, and is located within the Riverfront Area. The project will result in a total land disturbance of approximately $6,005 \pm$ square-feet, all of which is located within the previously developed 200' Riverfront Area of the Mill Brook. The proposed development complies with 310 CMR 10.58(5) *Redevelopment within Previously Developed Riverfront Areas; Restoration and Mitigation*:

- 10.58(5)(a) - *At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58(4) shall be met.*
 - **The project proposes a significant improvement to the existing developed area within the Mill Brook Riverfront Area. The project proposes a $4,636 \pm$ square-foot reduction in impervious surfaces and increased pervious areas consisting of landscaping / trees, compared to existing conditions.**
- 10.58(5)(b) - *Stormwater management is provided according to standards established by the Department.*
 - **Refer to the Stormwater Report submitted in conjunction with this Narrative.**
- 10.58(5)(c) - *Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).*
 - **The project proposes all disturbance within existing limits of disturbance. At no point do the site improvements encroach within 30' of the Mill Brook. Adequate erosion control barriers are proposed to prevent sediment laden runoff from leaving the construction site.**
- 10.58(5)(d) - *Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).*
 - **As mentioned, the property is located almost entirely within the 200' Riverfront Area and the proposed addition is located as far from the Mill Brook as feasible based on the location of the existing building.**
- 10.58(5)(e) - *The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).*
 - **In existing conditions, greater than 10% of the property's Riverfront Area is currently degraded. The project does not increase the amount of degradation within the Mill Brook Riverfront Area.**
- 10.58(5)(f) - *When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include: 1. removal of all debris, but retaining any trees or other mature vegetation; 2. grading to a topography which reduces runoff and increases infiltration; 3. coverage by topsoil at a depth consistent with natural conditions at the site; and 4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;*
 - **Not applicable.**

- *10.58(5)(g) - When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 through 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Energy and Environmental Affairs.*
 - **Not applicable.**
- *10.58(5)(h) - The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.*
 - **Not applicable.**

5. Site Landscaping

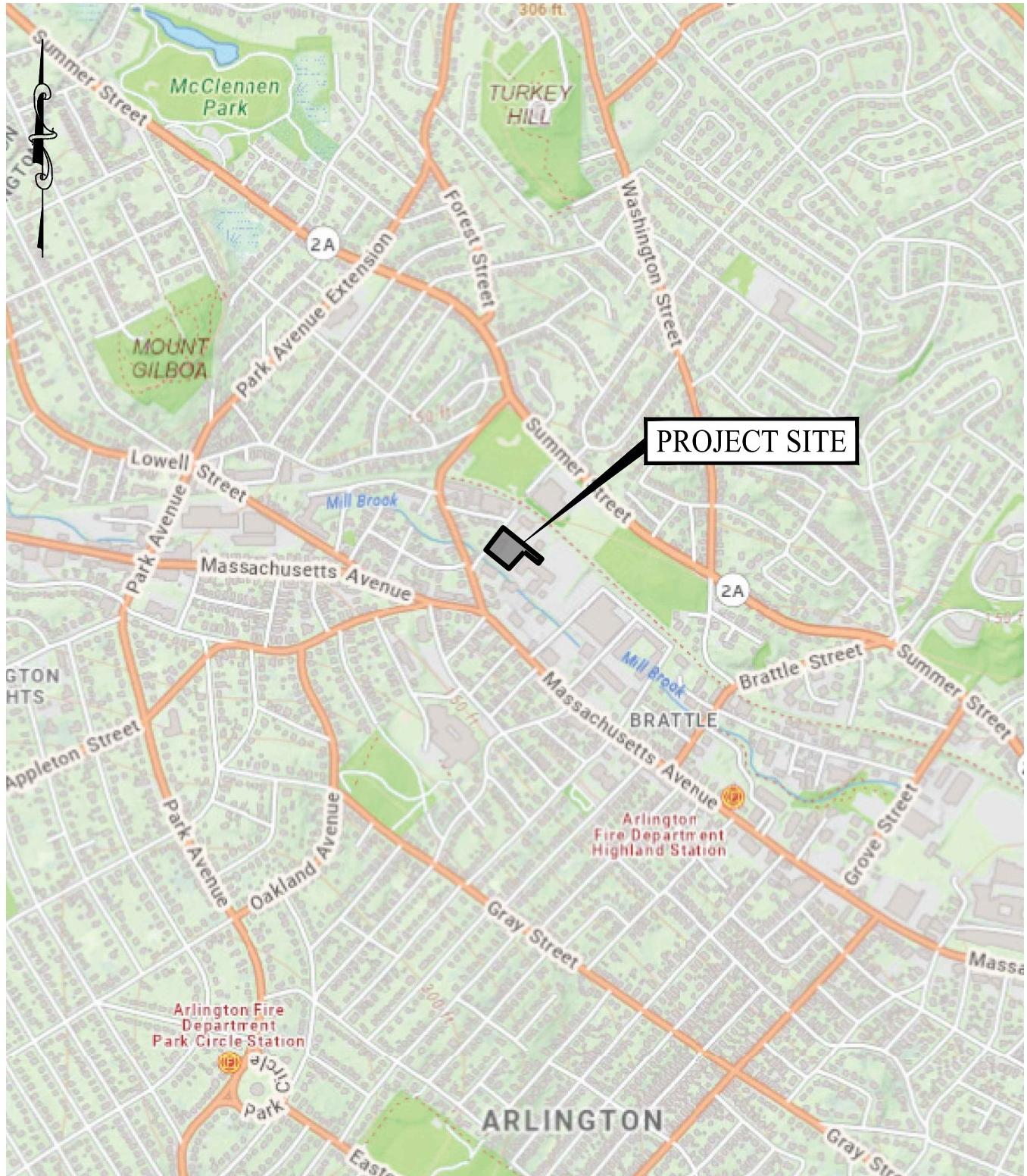
In existing conditions, the Site is almost entirely covered with building area and pavement (impervious surfaces), with the exception of a small, landscaped island to the south of the building that is improved with a Conifer Tree. The project proposes to maintain the existing Conifer Tree and install three (3) Red Maple trees (*Acer rubrum*) along the east side of the proposed beer garden, and five (5) Pink Flair cherry trees (*Prunus sargentii 'JFS-KW58'*) along the frontage.

6. Stormwater Management

Refer to the Stormwater Report submitted in conjunction with this Narrative.

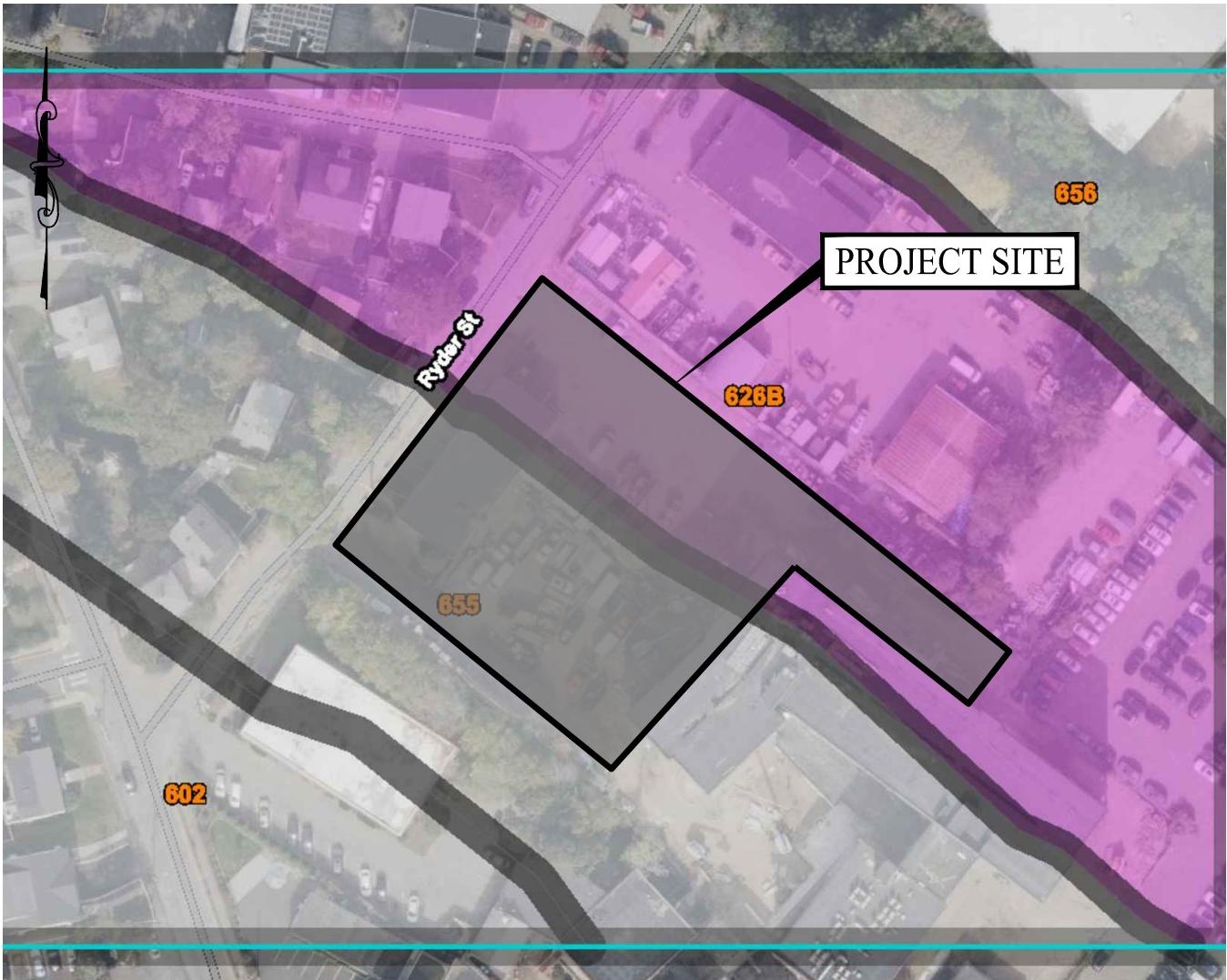
Enclosures:

- Figure 1 – Site Location Map
- Figure 2 – Soil Survey Map
- Figure 3 – FEMA Flood Map
- Figure 4 – Natural Heritage & Endangered Species Map



NOTE: BASE MAP INFORMATION TAKEN FROM
MAPS.MASSGIS.DIGITAL.MASS.GOV/MASSMAPPER

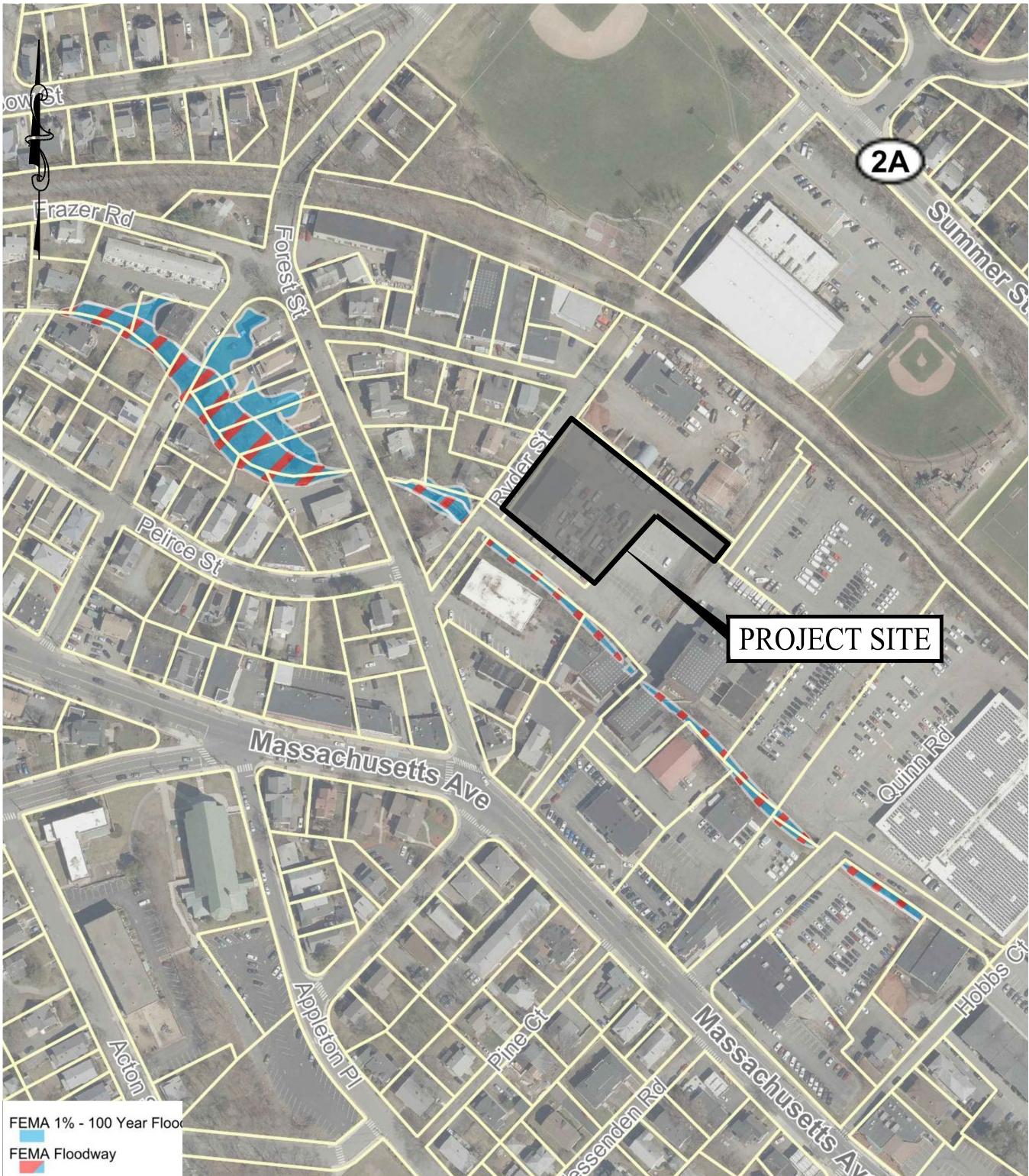




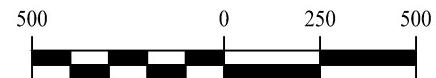
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land		1.2	14.0%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	3.6	43.2%
655	Udorthents, wet substratum		2.9	35.1%
656	Udorthents-Urban land complex		0.6	7.7%
Totals for Area of Interest			8.4	100.0%

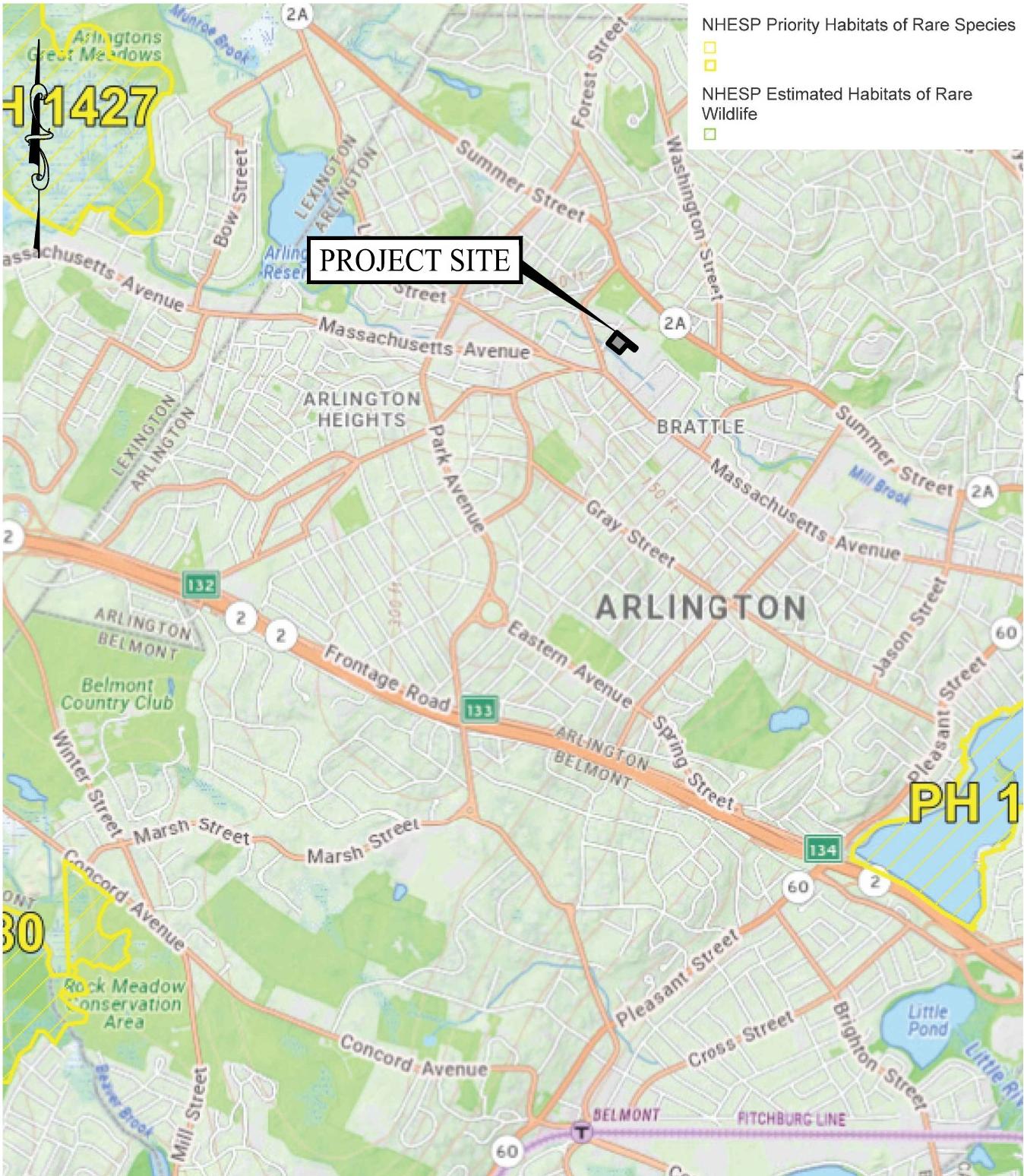
NOTE: BASE MAP INFORMATION TAKEN
FROM THE NATURAL RESOURCES
CONSERVATION SERVICE URL:
(<https://websoilsurvey.sc.egov.usda.gov>).





NOTE: BASE MAP INFORMATION TAKEN
FROM ARLINGTON, MA GIS
(<https://www.mapsonline.net/arlingtonma/wetland.Html>)







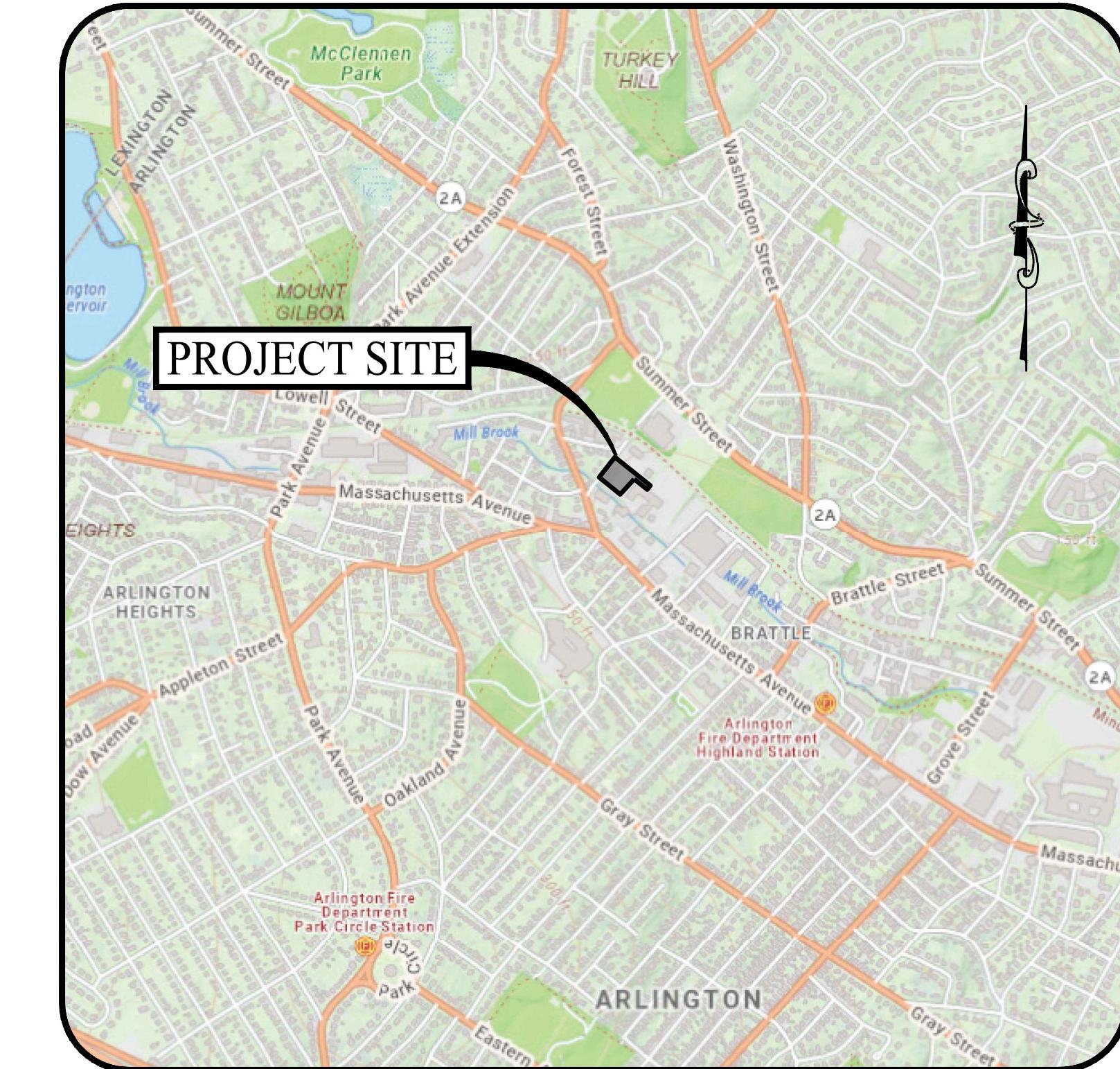
USGS MAP

SCALE: 1" = 1,000'

PROPOSED ARLINGTON BREWING COMPANY

15 RYDER STREET
ARLINGTON, MASSACHUSETTS

NOTICE OF INTENT (NOI) PERMITTING PLAN SET



LOCATION MAP

SCALE: 1" = 1,000'

OWNER

ABC LAND LLC
438 MASS AVE
ARLINGTON, MASSACHUSETTS 02474

SITE / CIVIL ENGINEER

KEVIN SOLLI, P.E., PTOE, CPESC, LEED AP BD+C
LICENSE NO. 51952
SOLLI ENGINEERING, LLC
11 VANDERBILT AVENUE, SUITE 240
NORWOOD, MASSACHUSETTS 02062
(781) 352-8491

APPLICANT

ABC BEER INC DBA ARLINGTON BREWING COMPANY
TOM ALLEN, FOUNDER
15 RYDER STREET
ARLINGTON, MASSACHUSETTS 02476

SURVEYOR OF RECORD

GERRY L. HOLDRIGHT, MA PLS
LICENSE NO. 49211
CONTROL POINT ASSOCIATES INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MASSACHUSETTS 01772
(508) 948-3000

PROPERTY INFORMATION

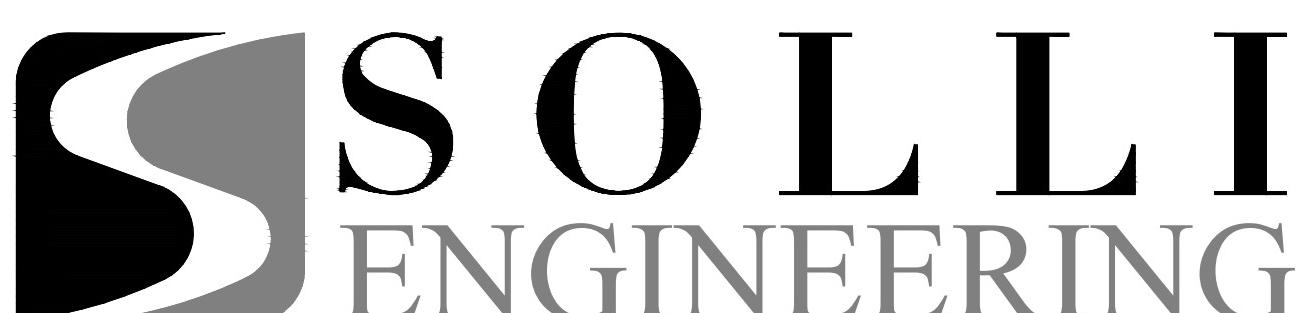
ADDRESS:	15 RYDER STREET TOWN OF ARLINGTON MASSACHUSETTS 02476
MBLU:	57-2-11
OWNER:	ABC LAND, LLC 15 RYDER STREET ARLINGTON, MASSACHUSETTS 02476
DEED:	78808-3
TOTAL LOT AREA:	1.049± ACRES

PREPARED FOR:

ARLINGTON BREWING COMPANY

15 RYDER STREET
ARLINGTON, MASSACHUSETTS

PREPARED BY:



MONROE, CT | WEST HARTFORD, CT | NORWOOD, MA

DRAWING LIST

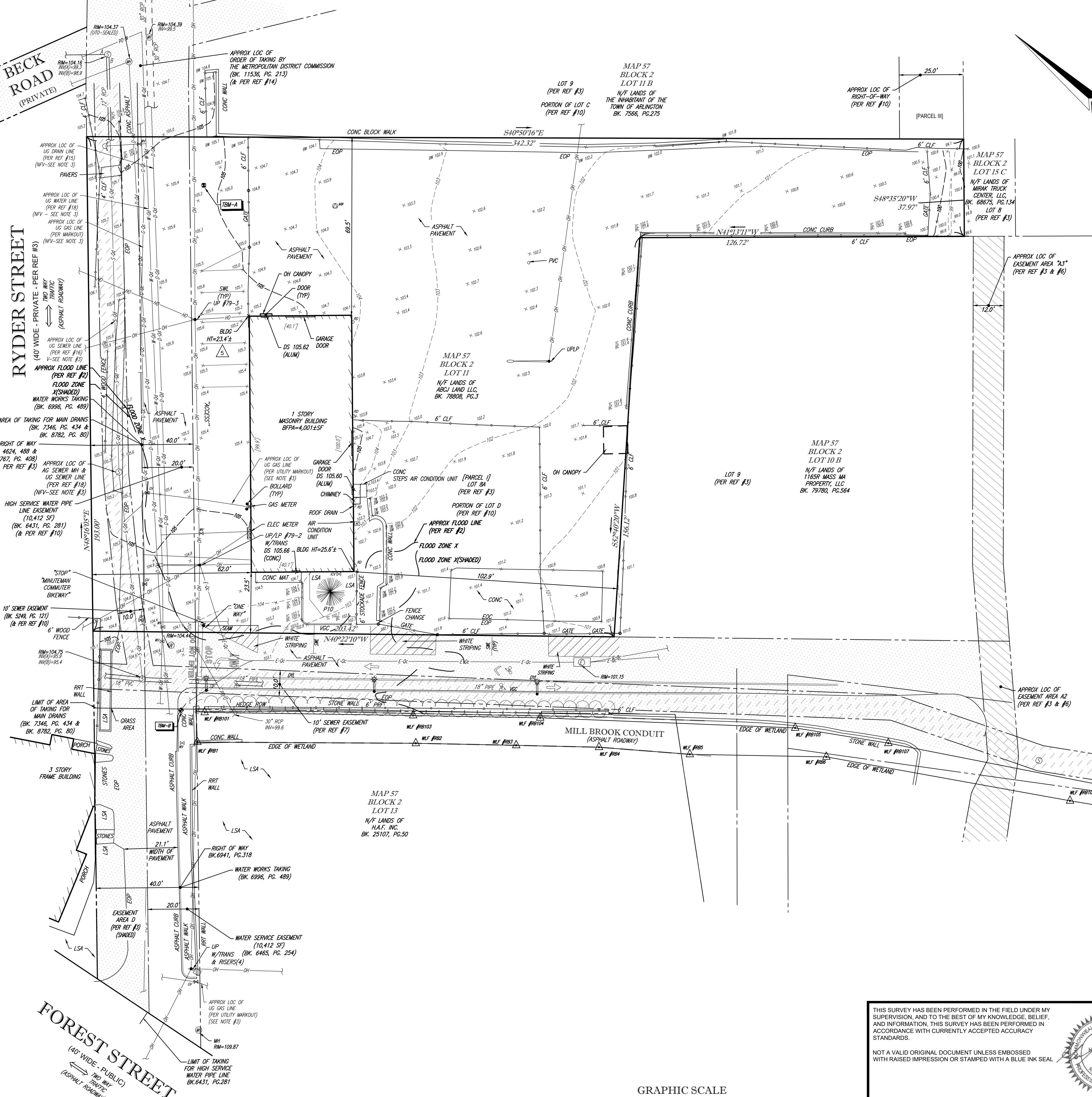
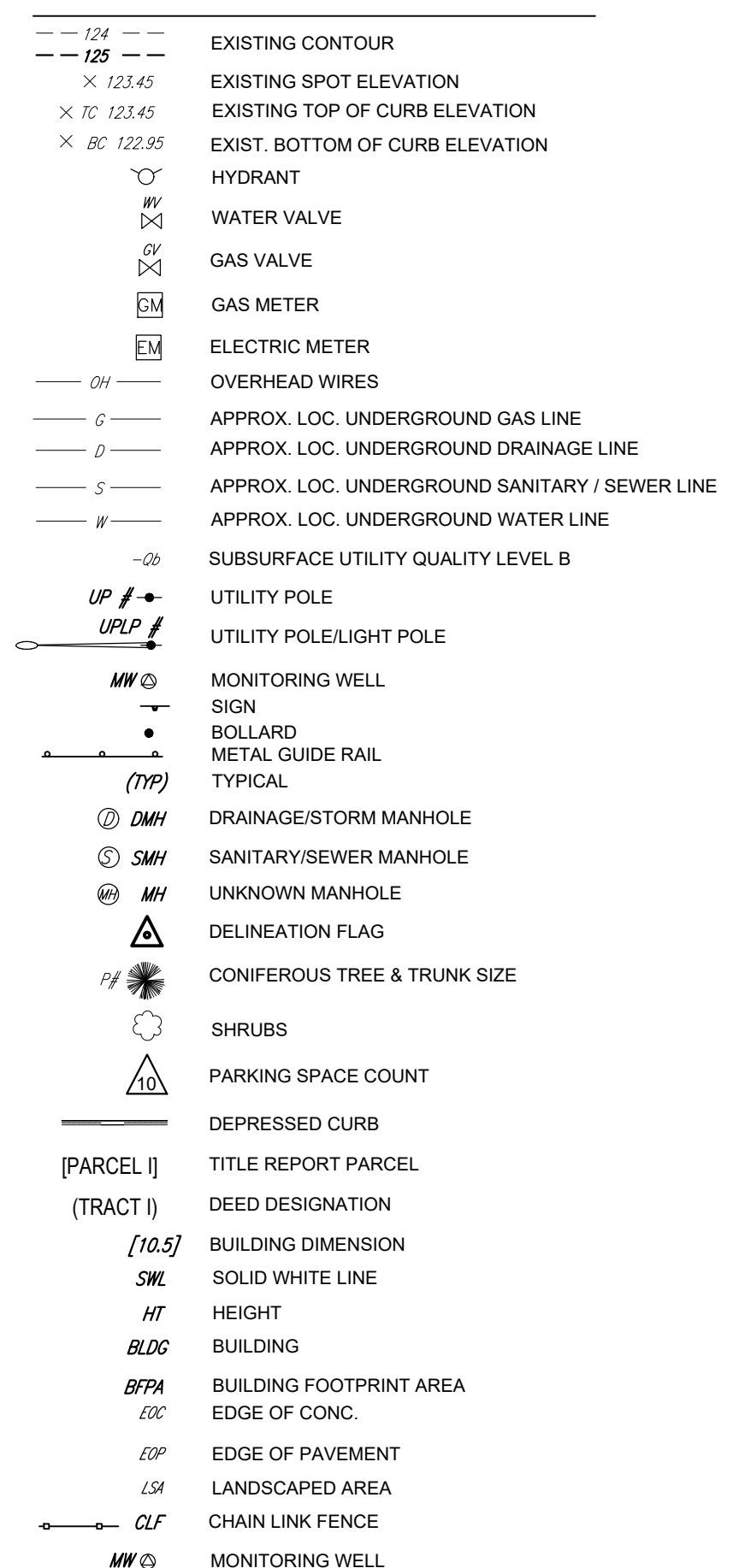
SHEET #	SHEET NAME	PLAN DATE	LATEST REVISION
0.00	COVER SHEET	03/04/25	03/26/25
1 OF 1	BOUNDARY, TOPOGRAPHIC & UTILITY SURVEY	01/21/25	N/A
2.00	NOI SITE PLAN	03/04/25	03/26/25
2.01	PHASE I EROSION & SEDIMENT CONTROL PLAN	01/25/25	03/26/25
2.02	PHASE II EROSION & SEDIMENT CONTROL PLAN	01/25/25	03/26/25

I	03/26/25	REVISED NOI MATERIAL
Rev. #:	Date	Description
Project: PROPOSED ARLINGTON BREWING COMPANY		
15 RYDER STREET ARLINGTON, MASSACHUSETTS OWNER: ABC LAND LLC MAP 57 BLOCK 2 LOT 11		
Sheet Title:	Sheet #:	
COVER SHEET	0.00	

REFERENCES:

- THE TAX ASSESSOR'S MAP OF ARLINGTON, MIDDLESEX COUNTY, MAP 57.
- MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS) PANEL 17 OF 176." COMMUNITY-PANEL NUMBER 25025C0017R, EFFECTIVE DATE JULY 3, 2024.
- MAP ENTITLED "PLAN OF LOTS AND EASEMENTS IN ARLINGTON, MA," PREPARED BY RIM ENGINEERING CO., INC., DATED OCTOBER 23, 2006, AND RECORDED IN THE SOUTH MIDDLESEX REGISTRY OF DEEDS AS PLAN NO. 1072 OF 2007.
- MAP ENTITLED "PLAN OF LAND IN ARLINGTON, MA," PREPARED BY RIM ENGINEERING CO., INC., DATED DECEMBER 28, 2018, AND RECORDED WITH THE SOUTH MIDDLESEX REGISTRY OF DEEDS AS PLAN NO. 110 OF 2018.
- WATER MAPPING PROVIDED BY THE TOWN ENGINEERING DEPARTMENT.
- MAP ENTITLED "PLAN OF LOTS AND EASEMENTS IN ARLINGTON, MA," PREPARED BY RIM ENGINEERING CO., INC., DATED JANUARY 21, 2003, AND RECORDED IN THE SOUTH MIDDLESEX REGISTRY OF DEEDS AS PLAN NO. 83 OF 2003 IN BOOK 37850 PAGE 812.
- MAP ENTITLED "PLAN OF LAND IN ARLINGTON MASS." DATED SEPTEMBER 13, 1945, RECORDED IN THE SOUTH MIDDLESEX REGISTRY OF DEEDS AS PLAN NO. 172 OF 1946.
- MAP ENTITLED "A-BUILT GEOTHERMAL SITE PLAN 1167B MASSACHUSETTS AVE. ARLINGTON, MA PREPARED FOR ACHIEVE RENEWABLE" DATES JANUARY 4, 2016 PREPARED BY PAUL LINDEHOLM, P.E.
- MAP ENTITLED "ALTANAPS LAND TITLE SURVEY, 15 RYDER STREET, TOWN OF ARLINGTON, MIDDLESEX COUNTY COMMONWEALTH OF MASSACHUSETTS," PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED: SEPTEMBER 28, 2021.
- MAP ENTITLED "SUB-DIVISION OF LAND IN ARLINGTON MASS.," PREPARED BY FRANK K. NICKSAY, CIVIL ENGINEER, DATED AUGUST 2, 1947, AND RECORDED WITH THE MIDDLESEX COUNT REGISTRY OF DEEDS IN BOOK 7178, PAGE 331 AS PLAN 1232 OF 1947.
- MAP ENTITLED "PLAN OF LAND IN ARLINGTON MASS. TAKEN FOR STORM DRAIN PURPOSES," PREPARED BY JAMES M. KEANE, TOWN ENGINEER, DATED OCTOBER 16, 1937, AND RECORD WITH THE MIDDLESEX COUNT REGISTRY OF DEEDS AS PLAN 992 OF 1937.
- MAP ENTITLED "PLAN OF LAND IN ARLINGTON MASS. TAKEN FOR STORM DRAIN PURPOSES," PREPARED BY JAMES M. KEANE, TOWN ENGINEER, DATED DECEMBER 15, 1939, AND RECORD WITH THE MIDDLESEX COUNT REGISTRY OF DEEDS AS PLAN 1086 OF 1939.
- MAP ENTITLED "PLAN OF LAND IN ARLINGTON MASS. TAKEN FOR SEWER PURPOSES," PREPARED BY JAMES M. KEANE, TOWN ENGINEER, DATED DECEMBER 14, 1939, AND RECORD WITH THE MIDDLESEX COUNT REGISTRY OF DEEDS AS PLAN 1086 OF 1939.
- MAP ENTITLED "THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION SEWERAGE DIVISION PLAN OF LAND IN ARLINGTON," DATED: FEBRUARY 1968, AND RECORD WITH THE MIDDLESEX COUNT REGISTRY OF DEEDS AS PLAN 729 OF 1968.
- MAP ENTITLED "PLAN AND PROFILE OF STORM DRAIN IN RYDER STREET," PREPARED BY JAMES M. KEANE TOWN ENGINEER, DATED: AUGUST 8, 1949, FILED IN THE TOWN OF ARLINGTON ENGINEERS OFFICE AS PLAN 4822.
- MAP ENTITLED "SEWER ASSESSMENT PLAN NO. 477," PREPARED BY J. M. KEANE TOWN ENGINEER, DATED: FEBRUARY 8, 1929, FILED IN THE TOWN OF ARLINGTON ENGINEERS OFFICE AS PLAN 2676.
- UNDERGROUND GAS MAPPING PROVIDED BY NATIONAL GRID GAS, MAP ARLL1250.
- UNDERGROUND WATER MAPPING PROVIDED BY MWRA.

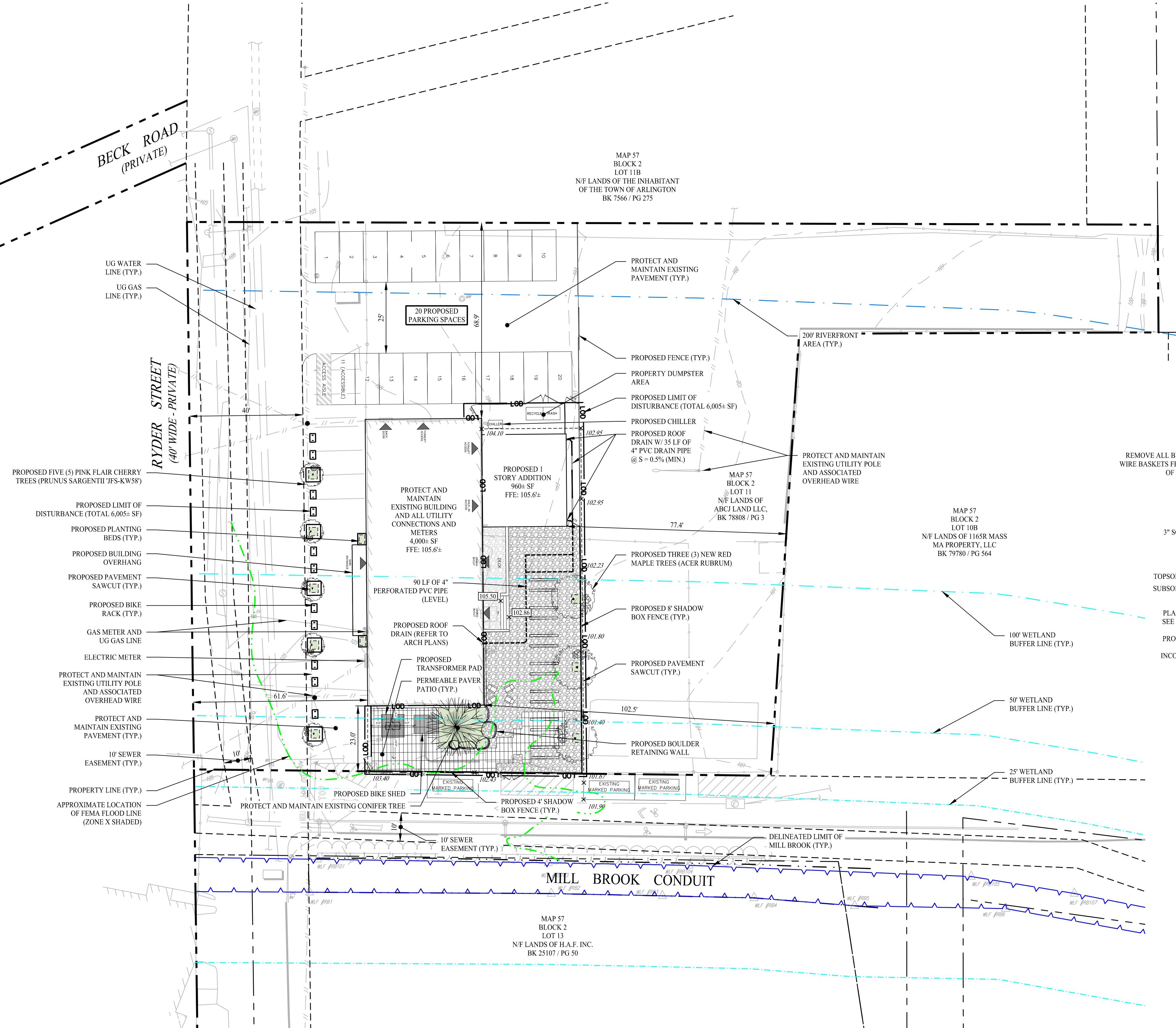
LEGEND



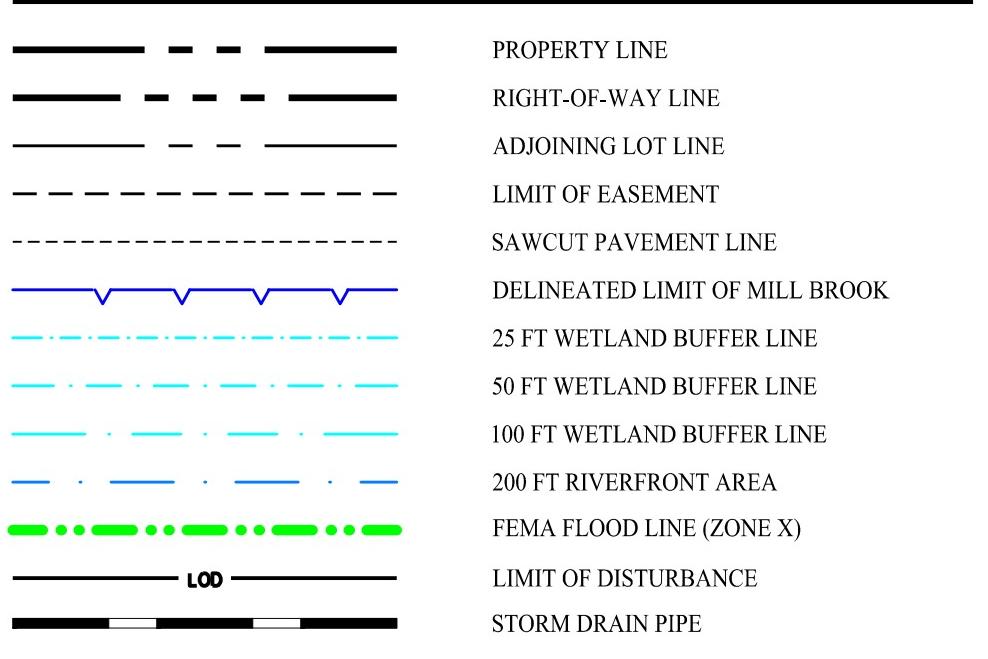
GENERAL NOTES

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- EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN TITLED "BOUNDARY, TOPOGRAPHIC & UTILITY SURVEY; ABC BEER INC.", DATED JANUARY 21, 2025, SCALE 1"=20'. PREPARED BY CONTROL POINT ASSOCIATES, INC.
- FIELD SURVEY DATE: DECEMBER 2024.
- THE PROJECT SITE CONSISTS OF ONE (1) PARCEL WITH A TOTAL LAND AREA OF APPROXIMATELY 1.040+ ACRES (45,687± SF) LOCATED WITHIN THE TOWN OF ARLINGTON INDUSTRIAL (1) ZONING DISTRICT.
- MAP 57 BLOCK 2 LOT 11 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS ASSESSORS MAPS.
- DEED REFERENCE: BK 78808 / PG 3
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SITE SURFACE AREA SUMMARY	EXISTING CONDITIONS	PROPOSED CONDITIONS
BUILDING AREA	4,000± SF	4,960± SF (+960± SF)
PAVEMENT	41,264± SF	36,628± SF (-4,636± SF)
LANDSCAPED AREAS / GRAVEL AREAS	414± SF	3,120± SF (+ 2,706± SF)
PERVIOUS PAVERS	0 SF	970± SF (+ 970± SF)
TOTAL	45,678± SF	45,678± SF



LEGEND



PARKING SUMMARY

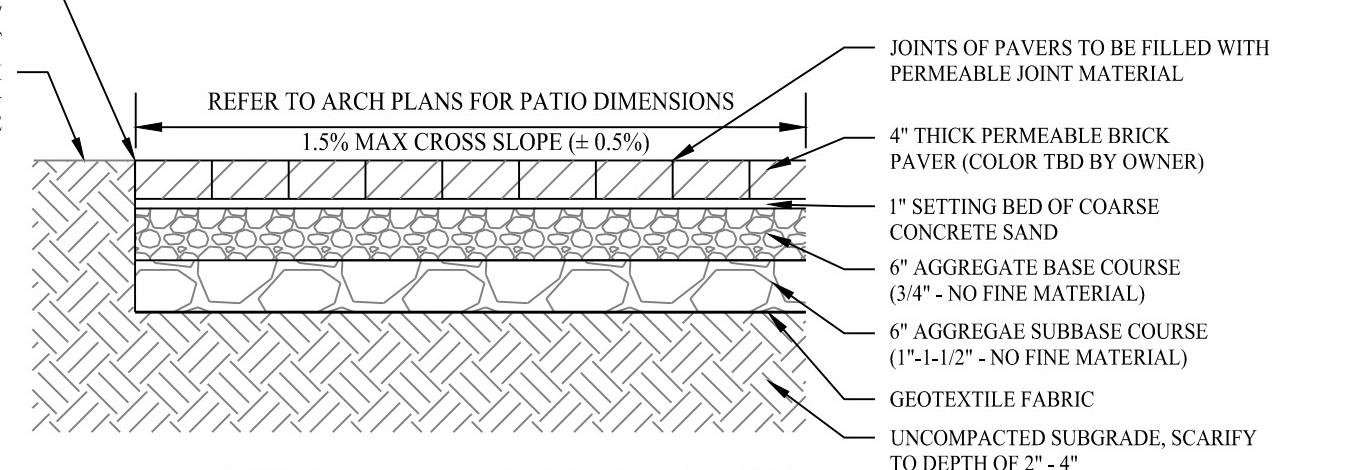
PROPOSED DEVELOPMENT	GFA	REQUIREMENT	REQUIRED	PROVIDED
PROPOSED ARLINGTON BREWING COMPANY	4,960± SF	-	17	20
			TOTAL	17 20

ZONING COMPLIANCE TABLE

ZONE: INDUSTRIAL DISTRICT	ZONING REQUIREMENT (INDUSTRIAL)	REQUIREMENT	EXISTING CONDITIONS	PROPOSED CONDITIONS
MINIMUM PARCEL AREA	N/A	45,687± SF	45,687± SF	
MINIMUM FRONTAGE	N/A	193 FT	193 FT	
MINIMUM FRONT YARD BUILDING SETBACK	10 FT	61.6 FT	61.6 FT	
MINIMUM SIDE YARD BUILDING SETBACK	10 FT	23.0 FT / 68.9 FT	23.0 FT / 68.9 FT	
MINIMUM REAR YARD BUILDING SETBACK	10 FT	102.5 FT	77.4 FT	
MAXIMUM BUILDING HEIGHT	39 FT	25.6 FT	25.6 FT	

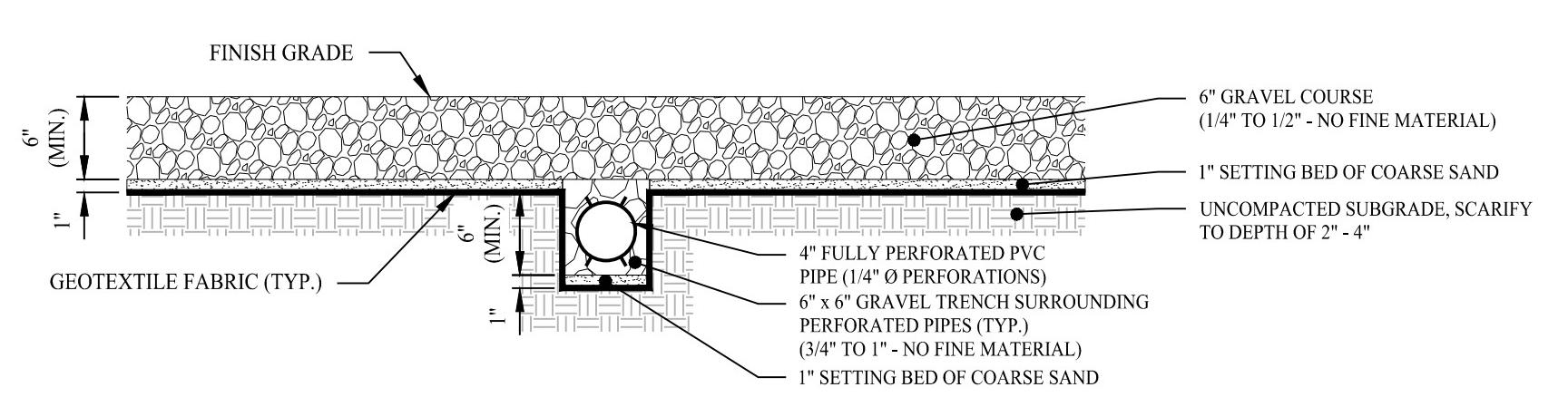
PERMEABLE PAVER DETAIL

SCALE: NTS



GRAVEL BEER GARDEN CROSS SECTION

SCALE: NTS



GENERAL NOTES

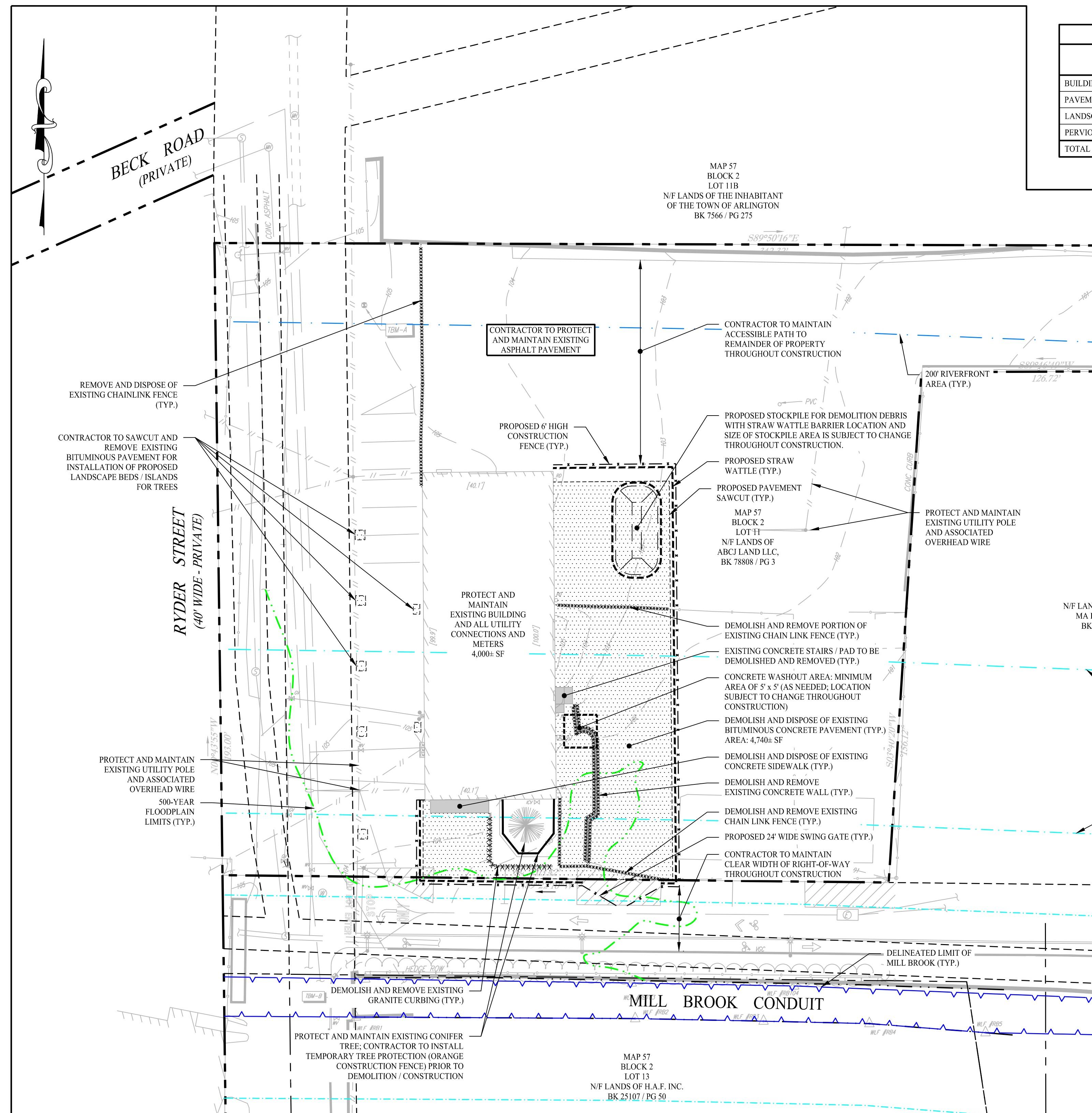
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1	03/26/25	REVISED NOI MATERIAL
Rev. #:	Date	Description
Graphic Scale:		
20	0	20 40



Drawn By: PDS
Checked By: STM
Approved By: KMS
Project #: 25200801
Plan Date: 03/04/25
Scale: 1" = 20'
Kevin Solli, P.E.
MA 51952

Project:
PROPOSED ARLINGTON BREWING COMPANY
15 RYDER STREET
ARLINGTON, MASSACHUSETTS
OWNER: ABC LAND LLC
MAP 57 BLOCK 2 LOT 11
Sheet Title: Sheet #:
NOI SITE PLAN 2.00



SITE SURFACE AREA SUMMARY		
	EXISTING CONDITIONS	PROPOSED CONDITIONS
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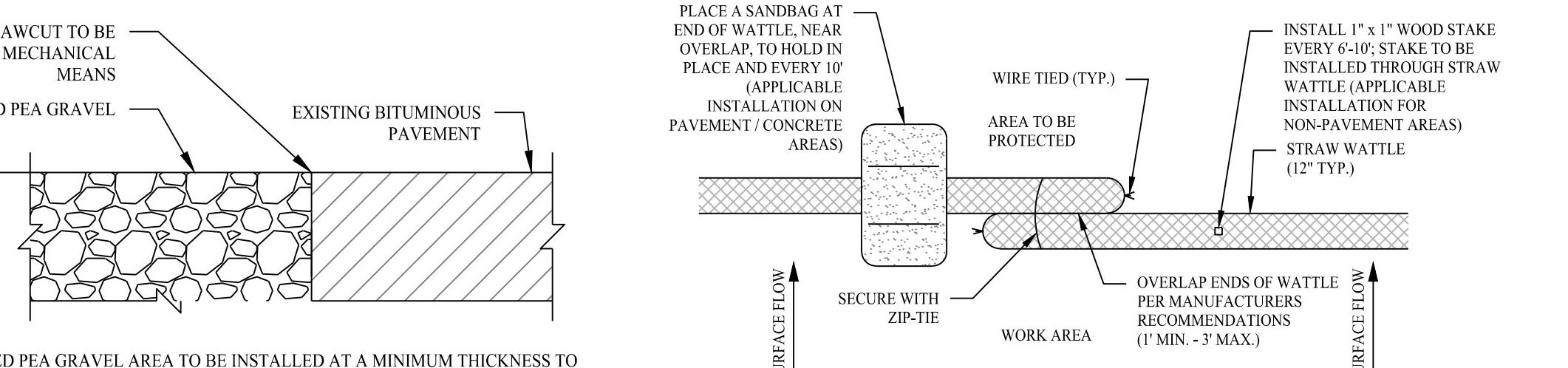
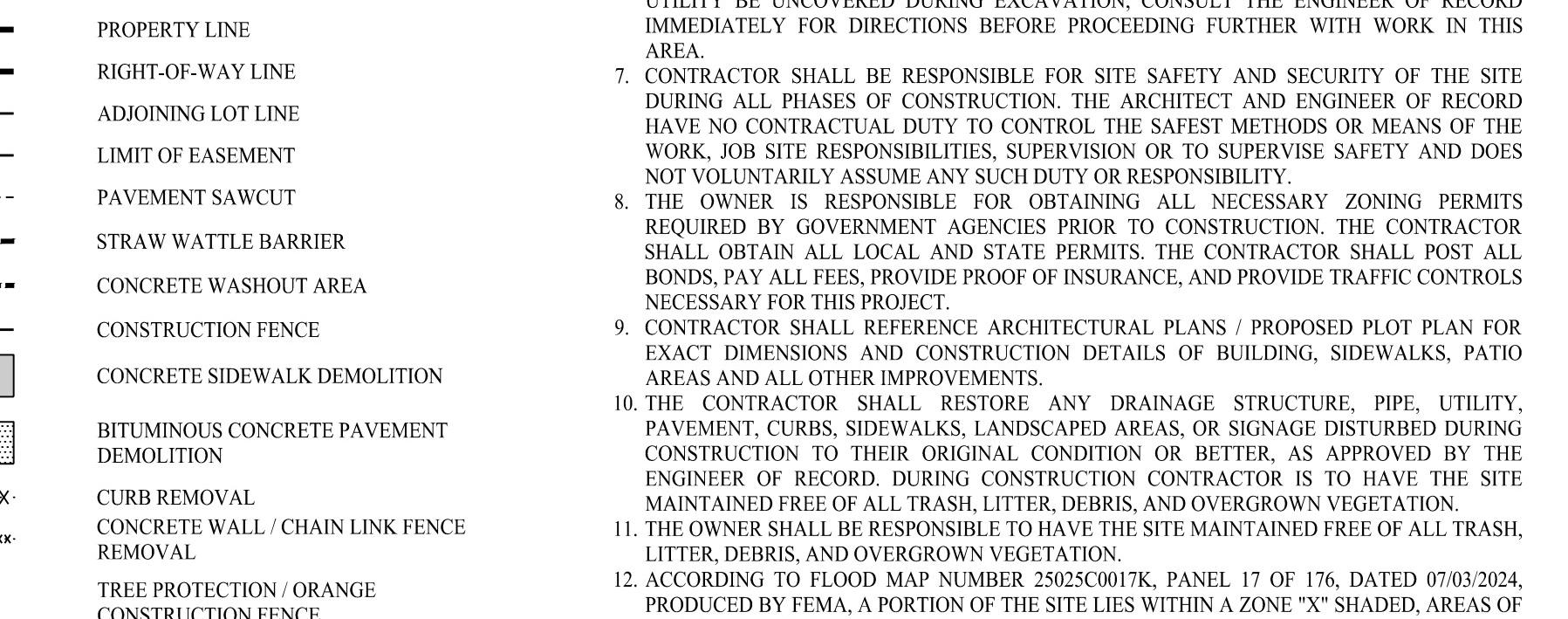
CONSTRUCTION SEQUENCE (PHASE 1)

1. PHASE I
ENSURE ALL BONDING / FEES / ZONING PERMITS ARE PAID AND APPROVED BY TOWN OF ARIELTON PRIOR TO CONSTRUCTION.
2. INSTALL CONSTRUCTION FENCE AND ESTABLISH CONTRACTOR PARKING AREA AND STAGING / STORAGE AREAS.
3. INSTALL STRAW WATTLE BARRIER ON OUTSIDE OF CONSTRUCTION FENCE.
4. PREPARE CONCRETE PADS FOR CURBING AND STORAGE AREAS.
5. INSTALL SILT SACK INLET PROTECTION ON ALL EXISTING DRAINAGE STRUCTURES WITHIN THE PROJECT SITE AND WITHIN PROXIMITY OF THE SITE.
6. HALT ALL ACTIVITIES AND CONTACT THE ENGINEER OF RECORD / TOWN OF ARIELTON LAND USE AGENT TO PERFORM INSPECTION AND CERTIFICATION OF BEST MANAGEMENT PRACTICES (BMP'S). GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT THE STORM WATER PRE-CONSTRUCTION MEETING WITH THE ENGINEER OF RECORD, TOWN AGENCIES, AND GROUND-DISTURBING CONTRACTOR BEFORE PROCEED WITH CONSTRUCTION.
7. PERFORM PAVEMENT SAWCUTS.
8. DEMOLISH AND REMOVE EXISTING STRUCTURES / FOUNDATIONS.
9. REMOVE ALL EXISTING CURBING, BITUMINOUS CONCRETE PAVEMENT, CONCRETE PADS, AND FENCING.
10. ESTABLISH MATERIAL STOCKPILE AREA AND INSTALL SEC BARRIER SURROUNDING PILE.
11. BEGIN ROUGH GRADING OF THE SITE.

GENERAL NOTES

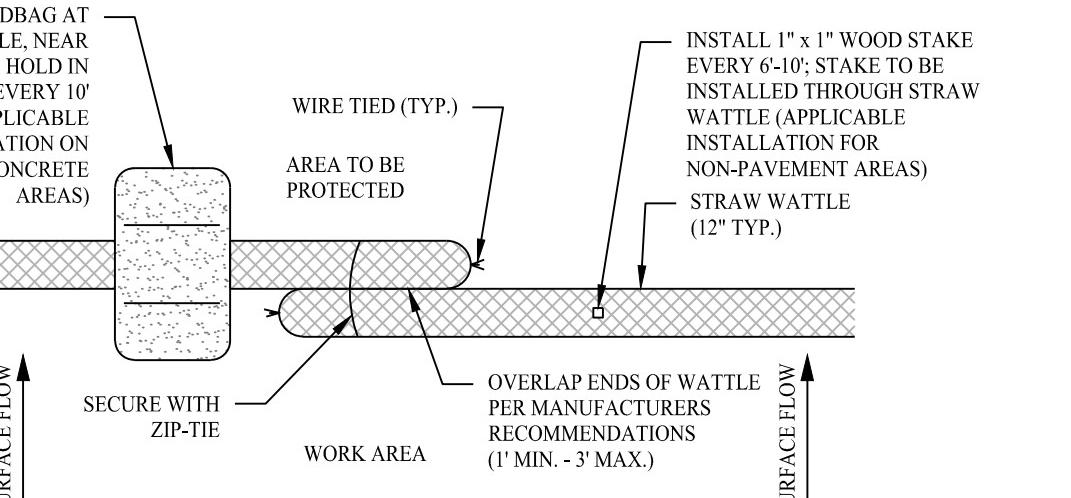
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- 3.1. FIELD SURVEY PERFORMED IN DECEMBER 2024.
- 3.2. THE VERTICAL DATUM IS NAVD88.
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- 4.2. DEED REFERENCE: BK 7808 / PG 3
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR CONTACT "D-SAFE" 24 HOURS BEFORE COMMENCEMENT OF WORK AT 781-271-4444. ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS, INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
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LEGEND



PAVEMENT SAWCUT DETAIL

SCALE: NTS



STAKED STRAW WATTLE

SCALE: NTS

2	03/26/25	REVISED NOI MATERIAL
1	03/04/25	NOI SUBMISSION
Rev. #:	Date	Description
Graphic Scale:		
20	0	20 40

SOLLI
ENGINEERING
MONROE, CT | W. HARTFORD, CT | NORWOOD, MA
SOLLINEERING.COM
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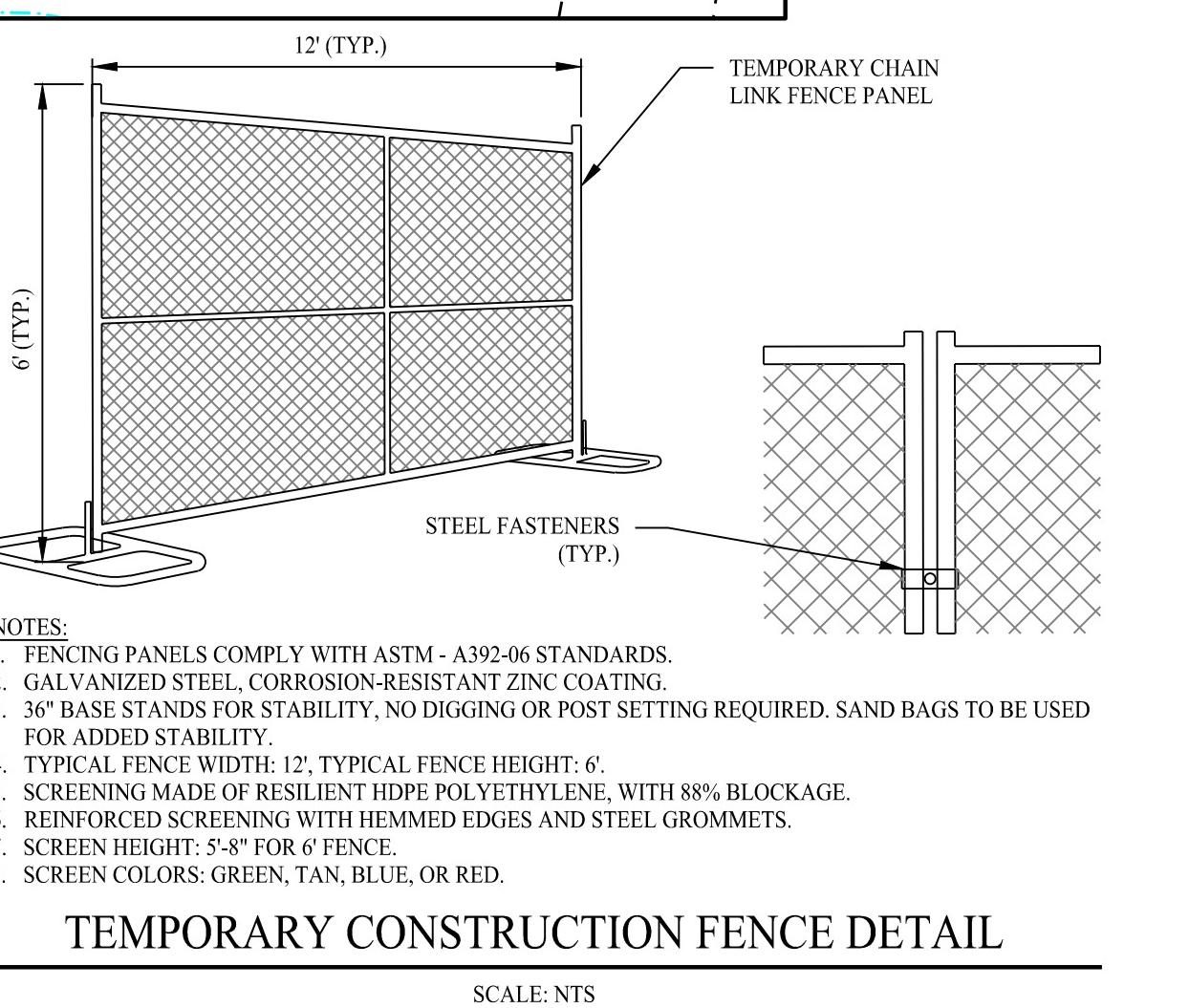
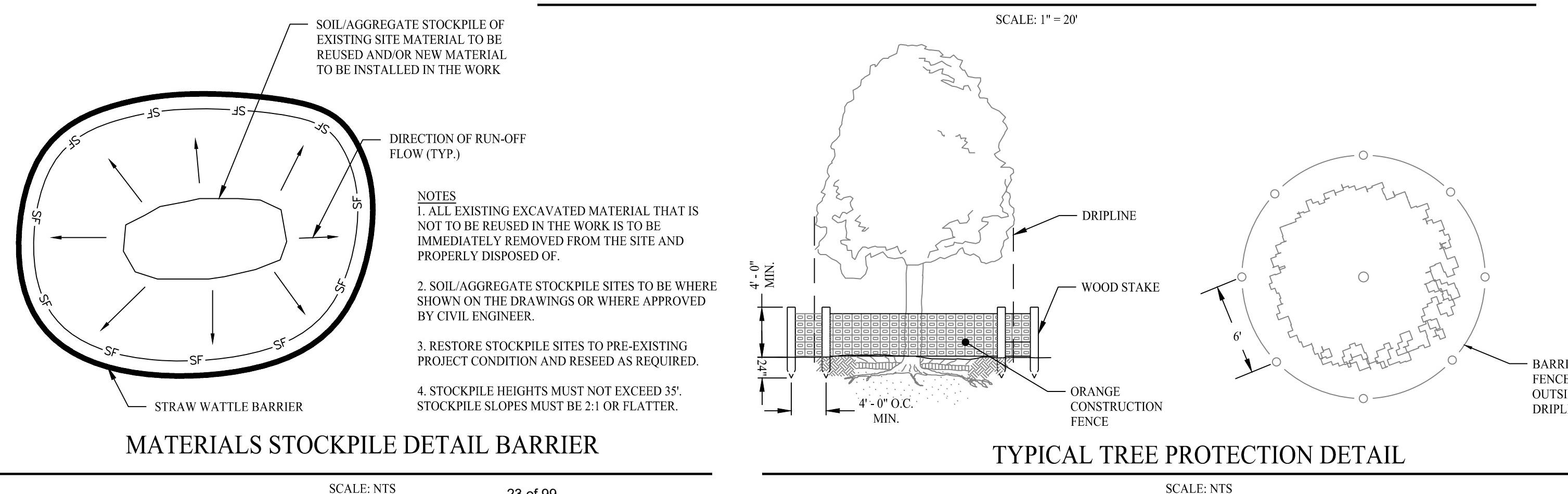
Drawn By: STM
Checked By: CJB
Approved By: KMS
Project #: 25200801
Plan Date: 01/25/25
Scale: 1" = 20'



Kevin Solli, P.E.
MA 51952

Project:
PROPOSED ARLINGTON BREWING COMPANY
15 RYDER STREET
ARLINGTON, MASSACHUSETTS
OWNER: ABC LAND LLC
MAP 57 BLOCK 2 LOT 11

Sheet Title: **PHASE I EROSION & SEDIMENT CONTROL PLAN**
Sheet #: **2.01**



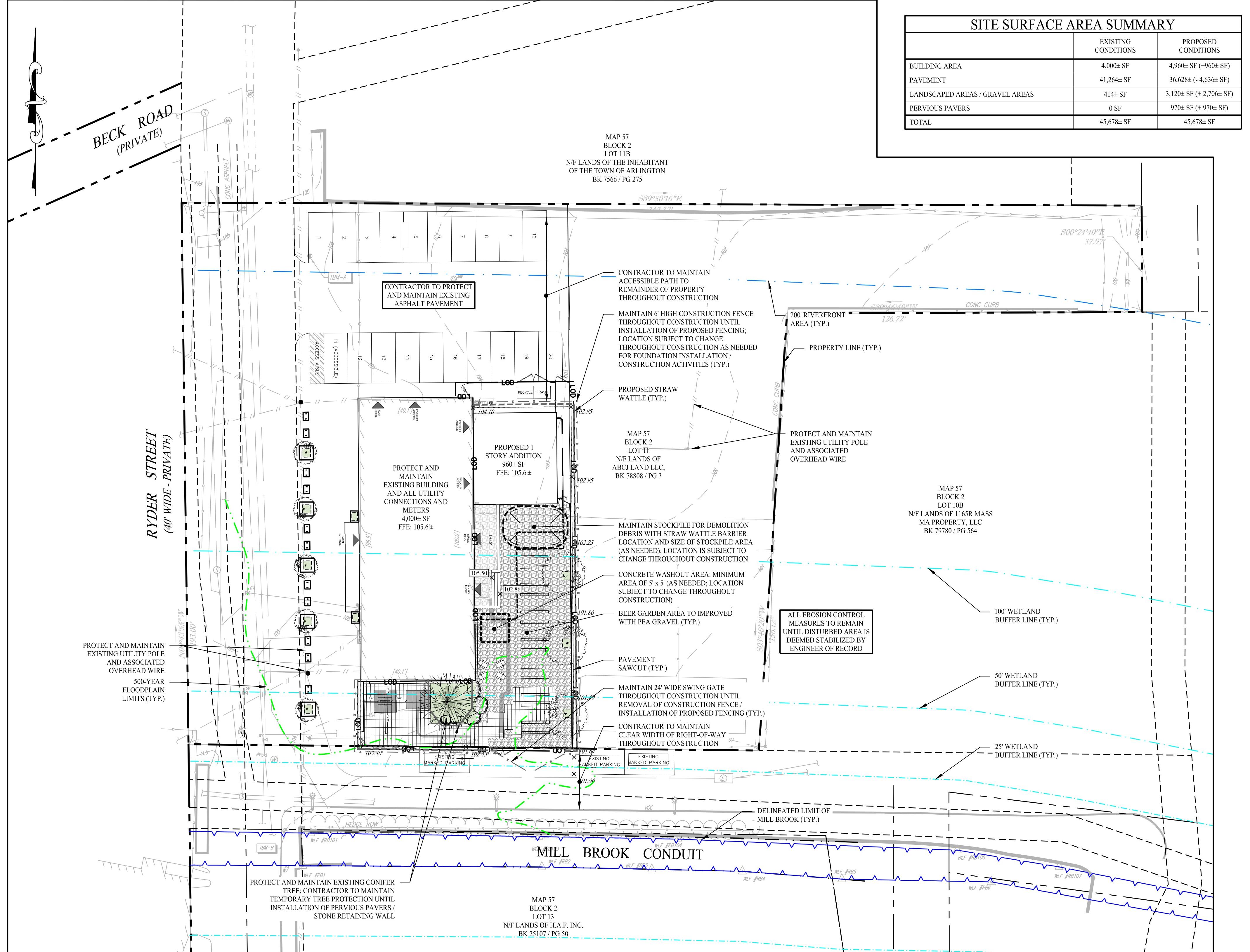
CONCRETE WASHOUT DETAIL

SCALE: NTS

NOTES:
1. FENCING PANELS COMPLY WITH ASTM - A392-06 STANDARDS.
2. GALVANIZED STEEL, CORROSION-RESISTANT ZINC COATING.
3. 36" BASE STANDS FOR STABILITY, NO DIGGING OR POST SETTING REQUIRED. SAND BAGS TO BE USED FOR ADDED STABILITY.
4. TYPICAL FENCE WIDTH: 12'; TYPICAL FENCE HEIGHT: 6'.
5. SCREEN IS MADE OF RESILIENT HDPE POLYETHYLENE, WITH 88% BLOCKAGE.
6. REINFORCED SCREENING WITH HEMMED EDGES AND STEEL GROMMETS.
7. SCREEN HEIGHT: 5.8" FOR 6' FENCE.
8. SCREEN COLORS: GREEN, TAN, BLUE, OR RED.

TEMPORARY CONSTRUCTION FENCE DETAIL

SCALE: NTS



CONSTRUCTION SEQUENCE (PHASE II)

- PHASE II:**

 - .1. INSTALL PROPOSED IMPROVEMENTS (SEE PROPOSED PLOT PLAN OF LAND FOR PROPOSED IMPROVEMENTS PREPARED BY CONTROL POINT ASSOCIATES, INC).
 - .2. INSTALL UTILITIES AS SHOWN ON PROPOSED PLOT PLAN OF LAND FOR PROPOSED IMPROVEMENTS PREPARED BY CONTROL POINT ASSOCIATED, INC.
 - .3. START CONSTRUCTION OF BUILDING ADDITION, BEER GARDEN AREA, AND PAVER AREA.
 - .4. INSTALL CURBS (AS NEEDED).
 - .5. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
 - .6. PREPARE SITE FOR FINAL GRADING.
 - .7. CONSTRUCT CONCRETE PADS AND SIDEWALKS.
 - .8. PAVE AREAS SHOWN ON PROPOSED PLOT PLAN OF LAND FOR PROPOSED IMPROVEMENTS PREPARED BY CONTROL POINT ASSOCIATED, INC.
 - .9. CONTRACTOR / CONSTRUCTION MANAGER TO COORDINATE WITH ENGINEER OF RECORD TO OBTAIN STABILIZED SITE STATUS.
 - .10. CONTINUE DAILY INSPECTION REPORTS UNTIL THE FINAL DAILY INSPECTION REPORT IS SIGNED BY THE CONSTRUCTION MANAGER AND SUBMITTED.

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3.1. FIELD SURVEY PERFORMED IN DECEMBER 2024.

3.2. THE VERTICAL DATUM IS NAVD88.

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4.1. MAP 57 BLOCK 2 LOT 11 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS ASSESSORS MAPS.

4.2. DEED REFERENCE: BK 78808 / PG 3

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THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE, AND PROVIDE TRAFFIC CONTROLS NECESSARY FOR THIS PROJECT.

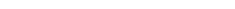
CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS / PROPOSED PLOT PLAN FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING, SIDEWALKS, PATIO AREAS AND ALL OTHER IMPROVEMENTS.

. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER OF RECORD. DURING CONSTRUCTION CONTRACTOR IS TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.

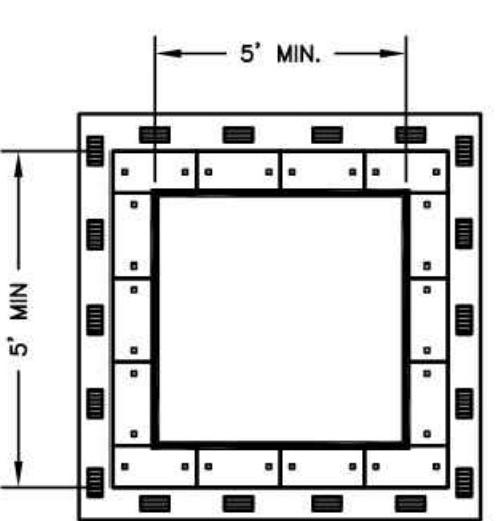
. THE OWNER SHALL BE RESPONSIBLE TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.

. ACCORDING TO FLOOD MAP NUMBER 25025C0017K, PANEL 17 OF 176, DATED 07/03/2024, PRODUCED BY FEMA, A PORTION OF THE SITE LIES WITHIN A ZONE "X" SHADED, AREAS OF 0.2% ANNUAL CHANCE OF FLOOD (500-YR FLOOD PLAIN).

LEGEND

	PROPERTY LINE	
	RIGHT-OF-WAY LINE	7
	ADJOINING LOT LINE	
	LIMIT OF EASEMENT	
	PAVEMENT SAWCUT	8
	STRAW WATTLE BARRIER	
	CONCRETE WASHOUT AREA	
	CONSTRUCTION FENCE	9
	TREE PROTECTION / ORANGE CONSTRUCTION FENCE	

STAKED STRAW WATTLE

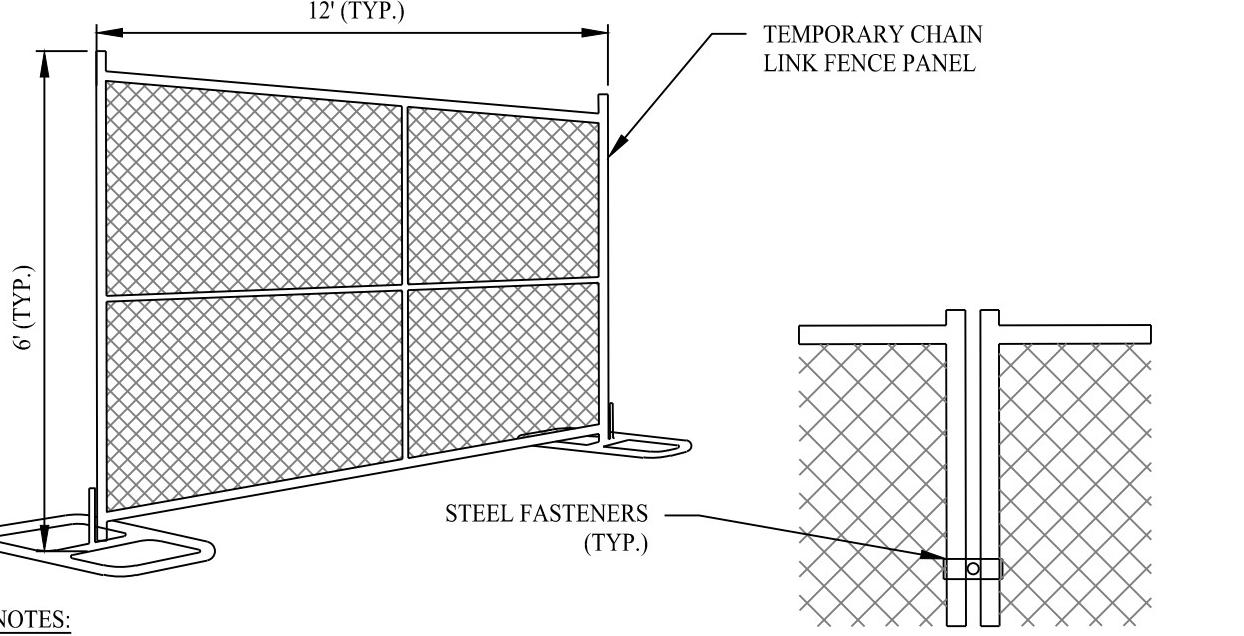


The diagram illustrates a cross-section of a straw bale wall. At the top, a thick black line labeled "10 MIL PLASTIC LINER" runs horizontally. Below it, several straw bales are shown as textured rectangles. A wavy line labeled "NATIVE MATERIAL (OPTIONAL)" is positioned at the base of the wall. To the right, a single straw bale is supported by a vertical stake labeled "WOOD OR METAL STAKES". A horizontal line labeled "SANDBAG" extends from the right side of the wall.

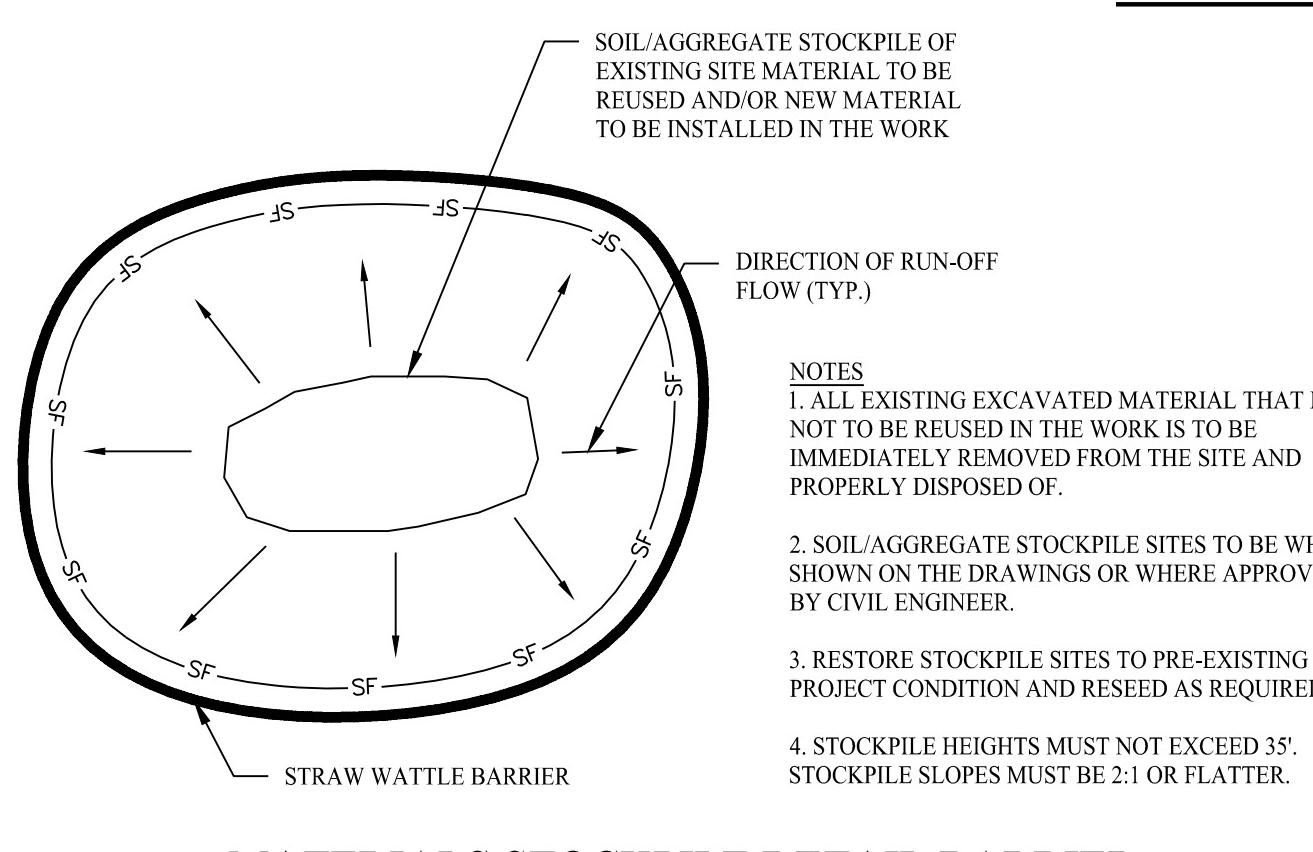
NOTES:

1. NO WASHING OUT OF CONCRETE TRUCKS OR WASHING OF SWEEPING FROM EXPOSED AGGREGATE CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS OR STREAMS IS PERMITTED.
2. EXCESS CONCRETE IS NOT PERMITTED TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED TEMPORARY WASHOUT AREAS (REFER TO SHEET 2.32).
3. ONCE WASHOUT AREA IS 75% FULL, CONTRACTOR TO CLEAN OUT OR REPLACE AREA.
4. PLASTIC LINING SHALL BE MINIMUM 10 MIL. POLYETHYLENE SHEETING AND WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS.
5. HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF OFF-SITE. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE REMOVED FROM THE SITE AND DISPOSED OF.

CONCRETE WASHOUT DETAIL



TEMPORARY CONSTRUCTION FENCE DETAIL



PHASE II - SOIL EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 20'

The diagram illustrates a soil erosion and sediment control plan for a tree. On the left, a detailed cross-section shows a tree with its root system. A protective fence made of orange construction panels is installed around the base of the tree. The fence height is indicated as 4'-0" O.C. MIN. The distance from the bottom of the fence to the ground is 24". Two vertical stakes, labeled "WOOD STAKE", are driven into the ground at the corners of the fence. A horizontal line, labeled "DRIPLINE", extends from the top of the fence. On the right, a circular plan view shows a perimeter fence with a total radius of 6'. The fence is composed of orange construction panels.



MATERIALS STOCKPILE DETAIL BARRIER



STORMWATER REPORT

To: Town of Arlington Conservation Commission
David Morgan / Environmental Planner & Conservation Agent

From: Sam T Malafronte, PE / Solli Engineering, LLC

Subject: Notice of Intent
Proposed Site Improvements
Arlington Brewing Company
15 Ryder Street, Arlington, MA
Project No.: 25200801

Date: 03/26/2025

CC: Tom Allen (Founder) / Arlington Brewing Company

Solli Engineering (Solli) has prepared this Stormwater Report (Report) for the proposed project for the Arlington Brewing Company located at 15 Ryder Street (MBLU: 57-2-11) in Arlington, Massachusetts. The project has been designed in compliance with the Town of Arlington Wetland Protection Regulations and the Massachusetts Wetlands Protection Act (*310 CMR 10.00 Wetlands Protection Act*). Additionally, this Report is intended to be in compliance with the Massachusetts Stormwater Handbook, updated February 2008, and the Town of Arlington Stormwater Management Rules and Regulations (04/08/2022). The project was designed to meet the stormwater management standards and best management practices defined in the Massachusetts Stormwater Handbook, while taking prevailing site conditions and practical considerations into account. For more information beyond the information provided below, refer to the NOI Permitting Plan Set and NOI Narrative submitted in conjunction with this Report.

PROJECT DESCRIPTION

The Applicant, Arlington Brewing Company, is proposing a $960\pm$ square-foot addition, a new $2,630\pm$ square-foot Beer Garden, landscaping and fencing improvements, and several pedestrian friendly features at the property of 15 Ryder Street (MBLU: 57-2-11) in Arlington, Massachusetts. The project will result in a total land disturbance of approximately $6,005\pm$ square-feet, all of which is located within the previously developed 200' Riverfront Area of the Mill Brook. The project proposes a reduction of $4,636\pm$ of impervious surfaces, compared to existing conditions.

METHODOLOGY

Stormwater runoff analysis, for both existing and proposed conditions, was performed using the software package HydroCAD. This software uses a computer implementation of the SCS / NRCS – TR-55 methodology to compute volumes and rates of runoff. The watershed area, rainfall depths and intensity, curve number, and time of concentration are factors that influence the computed results.

Rainfall depths for the site were used for calculating the volumes and rates of runoff for this project. The depths were taken from the NOAA Atlas 14, Volume 10, Version 3 (Latitude: 42.4246° , Longitude: -71.1743°) and the rainfall values are listed in Table 1 below.

Table 1: Rainfall Data

Return Period (Storm Event)	24-hr Rainfall Depth (inches)
2-Year	3.27
10-Year	5.16
25-Year	6.34
50-Year	7.21
100-Year	8.16

HydroCAD automatically computes the rainfall intensity from its own IDF curves when the rainfall intensity data is provided. This information was taken from the NOAA Atlas 14, Volume 10, Version 3 (Latitude: 42.4246°, Longitude: -71.1743°) and the rainfall values are listed in Table 2 below.

Table 2: IDF Table

Return Period (Storm Event)	Intermediate Intensity Values (in/hr)			
	5-Minute	15-Minute	30-Minute	60-Minute
2-Year	4.48	2.49	1.71	1.08
10-Year	6.92	3.85	2.65	1.68
25-Year	8.46	4.70	3.23	2.06
50-Year	9.60	5.33	3.67	2.34
100-Year	10.8	6.01	4.14	2.64

SCS / NRCS uses the runoff curve number (CN) method to estimate runoff from storm rainfall. The major factors that determine CN are the watershed's soil and cover conditions, cover type, treatment, and hydrologic condition. The higher percentage of impervious cover within a watershed will result in a higher curve number. A composite curve number was calculated for each analyzed watershed.

The time of concentration is the time it takes for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. The time of concentration is calculated by adding the travel times of sheet flow, shallow concentrated flow, and open channel flow, or some combination of these depending on the watershed and its features. Refer to the enclosed material for the calculations and additional information.

Standard 1: Discharge Protection - No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Not applicable, the project does not propose any new stormwater discharges.

Standard 2: Attenuation - Stormwater management systems shall be designed so that the post-development peak discharge rates do not exceed pre-development peak discharge rates.

Existing Conditions – In existing conditions, the site drains from west to east, and runoff sheet flows over impervious surfaces to adjoining properties. There are not stormwater conveyance systems in the vicinity of the Site and there is no existing stormwater management. Elevations on the Site range between approximately 105' and 101'.

Approximately 0.76± acres of the Site and surrounding areas were analyzed for the purposes of stormwater management. The areas analyzed contain the contributing areas directly impacted by the proposed project. Based on existing drainage patterns, the 0.76-acre area was analyzed as one (1) drainage area (EDA-1).

EDA-1 has a contributing drainage area of approximately 0.76 acres and is composed of a majority of the property that will be impacted by the proposed project. The existing topography of the area indicates stormwater runoff sheet flows over impervious surfaces from west to east.

Table 3: Existing Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Existing Drainage Area 1 (EDA-1)	0.76 AC	98	6.0 Mins.
Total	0.76 AC	-	-

For more information regarding the existing drainage conditions of the Site refer to the Drainage Area Map (DA) enclosed within this Report.

PROPOSED CONDITIONS - The project proposes approximately $36,628\pm$ square feet of impervious surfaces; a decrease from existing conditions of approximately $4,636\pm$ square feet. As part of the project, the roof down spouts are proposed to be connected to a roof drainage system that will collect the roof runoff and convey it to a system of perforated pipes beneath the proposed gravel beer garden. The beer garden is proposed as a 6" thick (min.) stone area that, along with the perforated pipe system, will allow stormwater to recharge back into the ground providing $537\pm$ cubic feet of recharge volume. Based on the project, the 0.76-acre area was divided into two (2) contributing drainage areas, labeled Proposed Drainage Area 1A (PDA-1A) and Proposed Drainage Area 1B (PDA-1B).

PDA-1A has a contributing drainage area of approximately 0.58 acres and is largely areas that will maintain existing drainage patterns as current conditions. The runoff in this area will continue to sheet flow over existing impervious surfaces from west to east, as it does in existing conditions.

PDA-1B has a contributing drainage area of 0.18 acres and is mainly the roof (existing building and proposed addition) and the proposed beer garden. The stormwater runoff in this area is proposed to be infiltrated into the ground via the stone beer garden and a perforated pipe system for the roof down spouts. In larger storm events, we do anticipate this area to be inundated and will overflow, similar to a level spreader. The overflow discharge will mimic existing drainage patterns and flow from west to east.

Table 4: Proposed Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Proposed Drainage Area 1 (PDA-1)	0.76 AC	-	-
Proposed Drainage Area 1A (PDA-1A)	0.58 AC	98	6.0 Mins.
Proposed Drainage Area 1B (PDA-1B)	0.18 AC	97	6.0 Mins.
Total	0.76 AC	-	-

For more information regarding the existing drainage conditions of the Site refer to the Drainage Area Map (DA) enclosed within this Report.

The project proposes approximately $36,628\pm$ square feet of impervious surfaces; a decrease from existing conditions of approximately $4,636\pm$ square feet. As part of the project, the roof down spouts are proposed to be connected to a roof drainage system that will collect the roof runoff and convey it to a system of perforated pipes beneath the proposed gravel beer garden. The beer garden is proposed as a 6" thick (min.) stone area that, along with the perforated pipe system, will allow stormwater to recharge back into the ground providing $537\pm$ cubic feet of recharge volume. The proposed stormwater management systems will attenuate and infiltrate the stormwater runoff associated with the Site and provide a reduction in peak flow rate compared to existing conditions in the 2-, 10-, 25-, 50- and 100-year storm events. Refer to Table 5 for the peak flow comparison between existing and proposed hydrologic conditions. Refer to the HydroCAD information enclosed within this Report.

Table 5: Peak Flow Reduction Table

Storm Event	Peak Flow (cfs)		Percent Reduction in Peak Flow
	EDA	PDA	
2-Year	2.36	2.23	5.5%
10-Year	3.75	3.61	3.7%
25-Year	4.61	4.47	3.0%
50-Year	5.25	5.10	2.9%
100-Year	5.95	5.79	2.7%

Standard 3: Recharge - At a minimum, the annual recharge from post-development site shall be approximately the same as the annual recharge from pre-development conditions based on soil type. This is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

According to soil survey mapping, obtained from the Natural Resource Conservation Service (NRCS), the surface soils on this Site are expected to include “Merrimac – Urban Land” and “Udorthents”. Merrimac soils are indicative of outwash plains and terraces, with a typical profile consisting of sandy loam / loamy sand soils. In this area, it's indicated that restrictive features are often observed greater than 80+ beneath the surface, and the soils can somewhat be excessively drained (indicating a hydrologic soil rating of “A”). Udorthents, wet substratum are indicative of depressions, bogs, and consist of loamy alluvium and/or sandy deposits. In this area, it's indicated that restrictive features are often observed greater than 80+ inches beneath the surface, and that groundwater is typically observed more than 80+ inches beneath the surface.

The project proposes a 4,636± square-foot reduction in impervious surfaces, compared to existing conditions, and qualifies as a “Redevelopment Project” in accordance with Standard 7. To satisfy Standard 3 to the maximum extent practicable, the gravel beer garden is being designed with a subsurface perforated pipe system that will have a recharging capacity of 537± cubic feet. The gravel beer garden and perforated pipe system are collecting approximately 0.18 acres of the Site and have sufficient volume to store the ½” recharge volume for the drainage area. Solli believes this system, in conjunction with the significant improvement to the existing degraded Riverfront Area, satisfies the intent of the Stormwater Handbook and further recharging measures would be impracticable to implement for the magnitude of this project.

Standard 4: Water Quality - The proposed development has been designed with stormwater treatment that incorporates structural best-management practices designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

This Standard has been met to the maximum extent practicable. An Operation and Maintenance Plan (O&M Plan) has been developed to formalize routine maintenance that will effectively reduce the TSS loading for the Site. The maintenance measures include annual street sweeping, implementation of native landscaping, deicing protocols, and trash management protocol. Solli believes the maintenance practices outlined in the O&M Plan along with the proposed recharge system (gravel beer garden) achieves satisfaction to the maximum extent practicable and satisfies the intent of the Stormwater Handbook.

Standard 5: Pollution Prevention - For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to maximum extent practical.

Not applicable, this land use is not a land use with higher potential pollutant loads.

Standard 6: Zone II / Wellhead Protection Area - Stormwater discharge within the Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or to any other critical area required the use of specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook.

According to the State of Massachusetts' online GIS mapping, the Site is NOT located within the Zone I, Zone II, or Interim Wellhead Protection area of a public water supply watershed.

Standard 7: Redevelopment Project - A redevelopment project is required to meet the following Stormwater Management Standards only to maximum extent practical: Standard 2, Standard 3, Standard 4, Standard 5, and Standard 6.

The project proposes a 4,636± square-foot reduction in impervious surfaces, compared to existing conditions, and qualifies as a “Redevelopment Project”. The project has been designed to meet Standard 2, Standard 3, Standard 4, Standard 5, and Standard 6 to the maximum extent practical.

Standard 8: Soil Erosion & Sediment Control - A plan to control construction-related impacts, including erosion, sedimentation, and other pollutant sources during construction and land disturbance activities shall be developed and implemented.

The project proposes adequate erosion and sediment control measures during construction to prevent construction-related impacts from impacting the Mill Brook. Refer to the Erosion and Sediment Control Plans submitted in conjunction with this Report.

Standard 9: Long-Term Operation & Maintenance Plan - A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An Operation & Maintenance Plan was prepared for this project and can be found as an enclosure to this Report.

Standard 10: Illicit Discharges - All illicit discharges to the stormwater management system are prohibited.

Based upon record research, mapping, site walks, this property has no observed or known illicit discharges. The proposed project will NOT produce illicit discharges, such as wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease. In the event an illicit discharge is discovered during construction, the source will be investigated, and the Applicant will work with the Conservation Agent to eliminate the connection. An Illicit Discharge Statement has been enclosed with this Report.

Enclosures:

- MassDEP Stormwater Checklist
- Operation & Maintenance Plan
- Illicit Discharge Statement
- Drainage Area Map (Existing & Proposed Conditions)
- Hydrology Calculations
 - NOAA Atlas Precipitation Data
 - Watershed Model Schematic
 - HydroCAD Reporting



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



 Kevin Solli, PE (03/26/2025)

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): _____

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
- Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
- is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
- The Required Water Quality Volume is reduced through use of the LID site Design Credits.
- Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the proprietary BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
- Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
- Redevelopment Project
- Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

LONG-TERM POLLUTION PREVENT PLAN & OPERATION & MAINTENANCE MANUAL

For the Proposed:

PROPOSED ARLINGTON BREWING COMPANY

Located At:
15 Ryder Street
Arlington, MA

Prepared On:
March 26th, 2025

Prepared For:
Town of Arlington

Prepared By:



11 Vanderbilt Avenue, Suite 240
Norwood, Massachusetts 02062
T: (781) 352-8491

Prepared For:
Arlington Brewing Company
15 Ryder Street
Arlington, MA

Proposed Arlington Brewing Company
15 Ryder Street
Arlington, Massachusetts

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Proposed Arlington Brewing Company
15 Ryder Street
Arlington, Massachusetts

APPENDECIES

APPENDIX A: Illicit Discharge Statement

APPENDIX B: Site Plan

INTRODUCTION

Solli Engineering (Solli) has prepared this Pollution Prevention Plan and Long-Term Operations and Maintenance Manual (O&M), to be filed with the Town of Arlington, Massachusetts for the proposed Arlington Brewing Company located at 15 Ryder Street in Arlington, Massachusetts (Site). The O&M has been prepared to ensure that the stormwater management functions as designed. The Owner of Arlington Brewing Company, a tenant of 15 Ryder Street, possesses the primary responsibility for overseeing and implementing the O&M and assigning a Property Manager who will be responsible for the proper operation and maintenance of the stormwater structures. In case of transfer of re-tenancy of the property, change in property ownership, future tenants / property owners shall be notified of the presence of the stormwater management system and the requirements for proper implementation of the O&M. Included in the O&M are key components of the stormwater system as well as a log for tracking inspections & maintenance.

The stormwater management system protects and enhances the stormwater runoff water quality through the removal of sediment and pollutants, and source control significantly reduces the number of pollutants entering the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular vacuuming and litter removal, prohibitions on the use of pesticides and maintenance of designated waste and recycling.

RESPONSIBILITY

The purpose of the Long-Term Operation and Maintenance Manual (O&M) is to ensure inspection of the system, removal of accumulated sediments, oils, and debris and implementation of corrective action and record keeping activities. The below O&M activities associated with the Site will be performed by a Contract Operator for the scope of maintenance. The Contract Operator will be a professional engineer or other technical professional with expertise and experience with stormwater management facilities operation and maintenance.

The ongoing responsibility is the Owner of Arlington Brewing Company, its successors, and assigns. Adequate maintenance is defined in this document as good working condition.

Responsibility for O&M:

Contact: Tom Allen / Arlington Brewing Company
Number:(617) 9095
Address: 15 Ryder Street
City, State: Arlington, Massachusetts

Signature: _____

DOCUMENTATION

An inspection and maintenance record log and schedule will be kept by the Owner of Arlington Brewing Company or Property Manager summarizing inspections, maintenance, repairs, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. Inspection & Maintenance Logs will be kept on file at the property.

MAINTENANCE PROGRAM

The Owner of Arlington Brewing Company, Property Manager, and maintenance staff will conduct the operation and maintenance program set forth in this document. The Owner of Arlington Brewing Company will ensure that inspections and record keeping are timely and accurate, and that cleaning and maintenance are performed in accordance with the recommended frequency for each stormwater component. Inspection & Maintenance Log Forms shall include the date and the amount of the last significant storm event in excess of 1-inch of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage, and maintenance required of each structure. The following areas, facilities and measures will be inspected by the Owner of Arlington Brewing Company or designated persons and maintained as specified below. Identified deficiencies will be corrected. Accumulated sediments and debris will be properly managed and disposed of off Site, in accordance with local, state, and federal guidelines and regulations.

GRAVEL BEER GARDEN / PERFORATED PIPE SYSTEM

The gravel surface and underlying infiltration system, which includes a perforated pipe system connected to the roof downspouts, are designed to provide groundwater recharge and mitigate stormwater runoff. Proper maintenance is critical to maintaining permeability, preventing clogging, and ensuring compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook.

Routine Maintenance Tasks

1. **Regular Inspections**
 - o Inspect the gravel surface and perforated pipe system **quarterly** and after significant rainfall events to assess infiltration performance and identify any erosion, clogging, or sediment buildup.
 - o Check for pooling water, which may indicate clogging or compaction.
 - o Maintain an inspection log to track maintenance activities and observations.
2. **Surface Maintenance**
 - o Gravel Raking and Leveling: Rake and regrade the gravel surface as needed to maintain even distribution and avoid compaction that could reduce infiltration capacity.
 - o Debris and Trash Removal: Remove litter, leaves, and organic debris monthly to prevent clogging of the infiltration system.
 - o Weed and Vegetation Control: Remove weeds manually or with approved herbicides to prevent root intrusion into the infiltration area.
3. **Perforated Pipe System Maintenance**
 - o Inspect downspouts and inlet points **biannually** to ensure they are free of debris and properly directing stormwater into the perforated pipe system.
 - o Flush the perforated pipe system **annually** to prevent sediment accumulation and maintain proper flow.
 - o Check for signs of sediment clogging at the outlets and clean as necessary.
4. **Erosion Control**
 - o Monitor the perimeter of the gravel area and adjacent landscape for signs of erosion.
 - o Add gravel or stabilize affected areas as needed to prevent washouts and maintain proper drainage.

Corrective Maintenance Tasks

1. **Clogging Mitigation**
 - o If infiltration rates decrease or standing water persists for more than 48 hours, remove and replace clogged gravel sections with clean, washed stone.
 - o If sediment accumulation is observed in the perforated pipe system, perform high-pressure flushing or remove and replace affected sections.
2. **Structural Repairs**
 - o Repair or replace damaged or collapsed sections of the perforated pipe system as needed.
 - o Ensure downspouts are properly connected and functioning to direct runoff into the infiltration system.

3. **Subsurface Maintenance**

- If persistent drainage issues occur, excavation may be required to remove compacted or clogged subsurface materials and replace them with fresh gravel or stone.
- Consult a stormwater professional for further evaluation if widespread failure is detected.

Winter Maintenance Procedures

- De-icing Practices: Minimize the use of sand or traditional salt, as these materials can reduce infiltration capacity. Use alternatives like calcium magnesium acetate (CMA) when necessary.
- Snow Removal: Avoid stockpiling snow directly on the gravel area to prevent excessive sediment buildup from meltwater runoff.

PERVIOUS PAVERS

Proper maintenance is essential to preserving the infiltration capacity of the pervious pavement system and preventing clogging from sediment and debris.

Routine Maintenance Tasks

1. **Regular Inspections**

- Inspect pervious pavers **quarterly** and after major storm events to check for sediment accumulation, clogging, and structural integrity.
- Record observations and maintenance actions in a log.

2. **Sweeping and Vacuuming**

- Perform vacuum sweeping **at least twice per year** (spring and fall) using a regenerative air or vacuum sweeper to remove sediment and debris.
- More frequent sweeping (quarterly) may be necessary in areas with high traffic or significant leaf litter.

3. **Weed and Vegetation Control**

- Remove weeds and unwanted vegetation manually or with approved herbicides to prevent root intrusion.
- Ensure that adjacent landscaping does not contribute excessive organic material or sediment to the surface.

4. **Debris and Trash Removal**

- Inspect for and remove litter and organic debris (e.g., leaves, twigs) monthly to prevent clogging.

5. **Stormwater Infiltration Testing**

- Conduct periodic infiltration testing **every two to three years** to verify that water is draining properly through the pavers.
- If infiltration is reduced, additional maintenance steps such as deep cleaning or aggregate replacement may be required.

Corrective Maintenance Tasks

1. **Clogging Mitigation**

- If sweeping does not restore permeability, power washing with a vacuum system may be used to remove deeply embedded sediments.
- If necessary, remove and replace clogged joint infill material with clean, washed aggregate.

2. **Surface Repairs**

- Replace broken or damaged pavers immediately to prevent safety hazards and maintain system effectiveness.
- Ensure that replacement pavers match the existing system to maintain design integrity.

3. **Subsurface Maintenance**

- If infiltration issues persist, consider removing and replacing clogged base materials.
- Consult an engineer or stormwater professional for remedial actions if widespread failure occurs.

Winter Maintenance Procedures

- **De-icing Practices:** Use sand sparingly, as excessive sand application can contribute to clogging. Opt for calcium magnesium acetate (CMA) or other environmentally friendly de-icing agents instead of salt.
- **Snow Removal:** Use rubber-edged plows or similar equipment to avoid damaging pavers. Avoid stockpiling snow in areas that could impede infiltration.

STREET MAINTENANCE

Street maintenance is a non-structural source control performed by mechanical means to limit sediment and particulates from impervious surfaces as an effort to control or limit the sediment migration to other stormwater BMP's during storm events. There are three typical types of sweeping methods, including mechanical, regenerative air, and vacuum filter. Mechanical sweepers are the most common and use brooms or brushes to scour the pavement. Regenerative air sweepers blow air onto the impervious surface causing sediment and other fine particles to be blown from the surface so they can be vacuumed. Vacuum filter sweepers are available in wet and dry types. Dry type use brooms to agitate the sediment prior to vacuuming. Wet type work in a similar fashion but use water to suppress dust during the collection activity. Because of street maintenance, sediment and other fine particulates are limited on the impervious surfaces and will be further controlled from entering other BMP's. They also allow for the removal and prevention of accumulation of sediment along parking or road edges.

Sweeping should mostly be conducted between the months of March and November, with special attention to sweeping during the wetter (earlier) months. Salt used for de-icing should be limited as much as possible as this will reduce the need for the removal and treatment. However, sand containing the minimum amount of calcium chloride (or approved equal) needed for handling may be applied as part of the routine winter maintenance activities.

PESTICIDES, HERBICIDES AND FERTILIZERS

Pesticides and herbicides shall be used sparingly. Fertilizers should be restricted to the use of organic fertilizers only. Exterior storage of fertilizers, herbicides, pesticides, or other toxic or hazardous materials should be prohibited.

SNOW REMOVAL

stockpiling of snow or ice that contains deicing chemicals is prohibited. Snow accumulations removed from roadway, driveway and parking areas shall be placed in appropriately designated areas, as directed by Arlington Brewing Company. Care must be exercised not to deposit snow in the following areas: on top of storm drain catch basins, in natural depressions, near or within wetland resource areas and where sand and debris can directly get into the watercourse or within an infiltration practice.

Arlington Brewing Company is responsible for educating staff and snow removal crews on the designated snow storage areas and the snow removal techniques required for this Site.

ESTIMATED OPERATIONS & MAINTENANCE ANNUAL BUDGET

BMP Structure / Service	Estimated Maintenance Cost*	Occurrence*	Total Estimated Annual Maintenance Cost*
BMP Inspection Services (Gravel beer garden, perforated pipe system)	\$2,500*	Annually*	\$2,500*
Snow Management	\$5,000*	Annually*	\$5,000*
Pavement Sweeping	\$1,000*	Annually*	\$1,000*
Landscaping	\$250*	Bi-Weekly (Spring through Fall)*	\$3,000*
		Total	\$11,500*

*The maintenance costs, occurrence of maintenance and estimated annual maintenance costs are an estimate, and this budget was prepared to satisfy #6 within Standard 9 of the MassDEP Stormwater Handbook. This budget is subject to change at the discretion of the Civil Engineer of Record, the Owner of the system, or the Property Maintenance Manager without notice to the Town of Arlington.

Title:
Location:

Inspection #:
Project #:
Field Date:

INSPECTION & MAINTENANCE LOG

Name(s) & Title(s) of Individual(s) performing inspection: _____

Week of Inspection: _____

Type of Inspection:

Monthly Quarterly Biannually Annually Emergency

Weather (during inspection)

Clear Cloudy Rain Snow Sunny Windy Fog

Other:

Time of Inspection: Start Time: a.m.	End Time: a.m.	Temp. during inspection:	°F
		Precip. since last inspection:	"

Site Specific BMP's

#	BMP	Maintenance Required		Corrective Action Needed & Notes	
1		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
7		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
8		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
9		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
10		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

Overall Site Maintenance Concerns

BMP/Activity	Maintenance Required	Corrective Action Needed & Notes	
Are discharge points & receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Are storm drain inlets properly working?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Is trash/litter from site areas collected & placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
What is the level of sediment within infiltration basin?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
What is the level of sediment within the hydrodynamic separators?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
What is the levels of oil/grit/trash within the infiltration basin or hydrodynamic separators?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Inspector(s) Signature(s): _____



ILLICIT DISCHARGE STATEMENT

Project: **Proposed Arlington Brewing Company**
15 Ryder Street
Arlington, Massachusetts
Project No.: 25200801

This statement is provided in accordance with the provisions of the Massachusetts Stormwater Handbook Standard 10 and Massachusetts Stormwater Standards.

- All existing and proposed stormwater management systems contain no connection to the Site's wastewater sewer system or to any other non-stormwater collection system.
- Existing groundwater collection systems on the Site are not connected to the Site's wastewater sewer system or to any other non-stormwater collection system.
- The facility's proposed Operation & Maintenance Plan is designed to prevent any discharge of non-stormwater to the drainage system.
- No known existing illicit discharges are on-site, in the event an illicit discharge is encountered or identified during or after construction, they will be immediately disconnected.
- The proposed modifications and development will NOT produce any illicit discharges, such as wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.

Solli Engineering, LLC

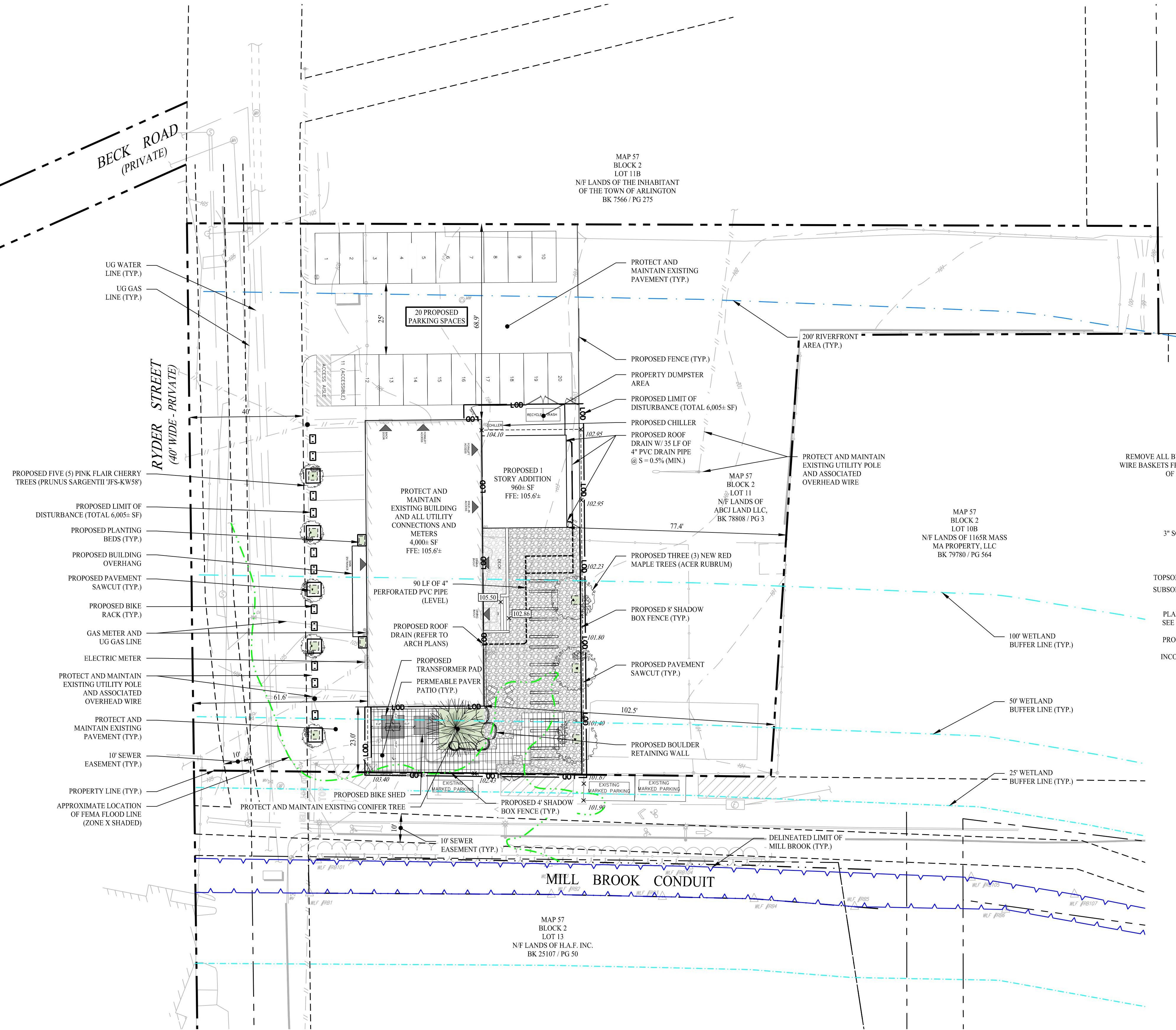
A handwritten signature in black ink that reads "Kevin Solli".

Kevin Solli, PE, PTOE
Principal / Owner

GENERAL NOTES

- THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
- ALL SITE WORK TO BE COMPLETED IN ACCORDANCE WITH ALL PERMITS, APPROVALS, AND CONDITIONS OF APPROVALS ISSUED BY THE TOWN OF ARLINGTON, MASSACHUSETTS FOR THIS PROJECT.
- EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN TITLED "BOUNDARY, TOPOGRAPHIC & UTILITY SURVEY; ABC BEER INC.", DATED JANUARY 21, 2025, SCALE 1"=20'. PREPARED BY CONTROL POINT ASSOCIATES, INC.
- FIELD SURVEY DATE: DECEMBER 2024.
- THE PROJECT SITE CONSISTS OF ONE (1) PARCEL WITH A TOTAL LAND AREA OF APPROXIMATELY 1.040+ ACRES (45,687± SF) LOCATED WITHIN THE TOWN OF ARLINGTON INDUSTRIAL (1) ZONING DISTRICT.
- MAP 57 BLOCK 2 LOT 11 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS ASSESSORS MAPS.
- DEED REFERENCE: BK 78808 / PG 3
- PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE THE COMMENCEMENT OF WORK AT "S1" AND VERIFY ALL UTILITIES AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITIES OWNER AND ENGINEER RECORDS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER OF RECORD IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY AND SECURITY OF THE SITE DURING ALL PHASES OF CONSTRUCTION. THE ARCHITECT AND ENGINEER OF RECORD HAVE NOT ACTUALLY CONDUCTED A SITE SURVEY OR CHECKED METHODS OR MEANS OF THE WORK FOR SITE RESPONSIBILITY, SUPERVISION, OR TO ENFORCE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
- THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE, AND PROVIDE TRAFFIC CONTROLS NECESSARY FOR THIS PROJECT.
- CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS / PROPOSED PLOT PLAN FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING, SIDEWALKS, PATIO AREAS AND ALL OTHER IMPROVEMENTS.
- THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNS THAT ARE DESTROYED DURING CONSTRUCTION. IF THEIR OWNERSHIP, CONDITION OR REPAIR IS APPROVED BY THE ENGINEER OF RECORD, DURING CONSTRUCTION CONTRACTOR IS TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.
- THE OWNER SHALL BE RESPONSIBLE TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.
- ACCORDING TO FLOOD MAP NUMBER 25025C0017K, PANEL 17 OF 176, DATED 07/03/2024, PRODUCED BY FEMA, A PORTION OF THE SITE LIES WITHIN A ZONE "X" SHADED, AREAS OF 0.2% ANNUAL CHANCE OF FLOOD (500-YR FLOOD PLAIN).

SITE SURFACE AREA SUMMARY	EXISTING CONDITIONS	PROPOSED CONDITIONS
BUILDING AREA	4,000± SF	4,960± SF (+960± SF)
PAVEMENT	41,264± SF	36,628± SF (-4,636± SF)
LANDSCAPED AREAS / GRAVEL AREAS	414± SF	3,120± SF (+ 2,706± SF)
PERVIOUS PAVERS	0 SF	970± SF (+ 970± SF)
TOTAL	45,678± SF	45,678± SF



LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF EASEMENT
- SAWCUT PAVEMENT LINE
- DELINEATED LIMIT OF MILL BROOK
- 25 FT WETLAND BUFFER LINE
- 50 FT WETLAND BUFFER LINE
- 100 FT WETLAND BUFFER LINE
- 200 FT RIVERFRONT AREA
- FEMA FLOOD LINE (ZONE X)
- LIMIT OF DISTURBANCE
- STORM DRAIN PIPE
- PERFORATED UNDERDRAIN / TRENCH DRAIN

PARKING SUMMARY

PROPOSED DEVELOPMENT	GFA	REQUIREMENT	REQUIRED	PROVIDED
PROPOSED ARLINGTON BREWING COMPANY	4,960± SF	-	17	20
			TOTAL	17 20

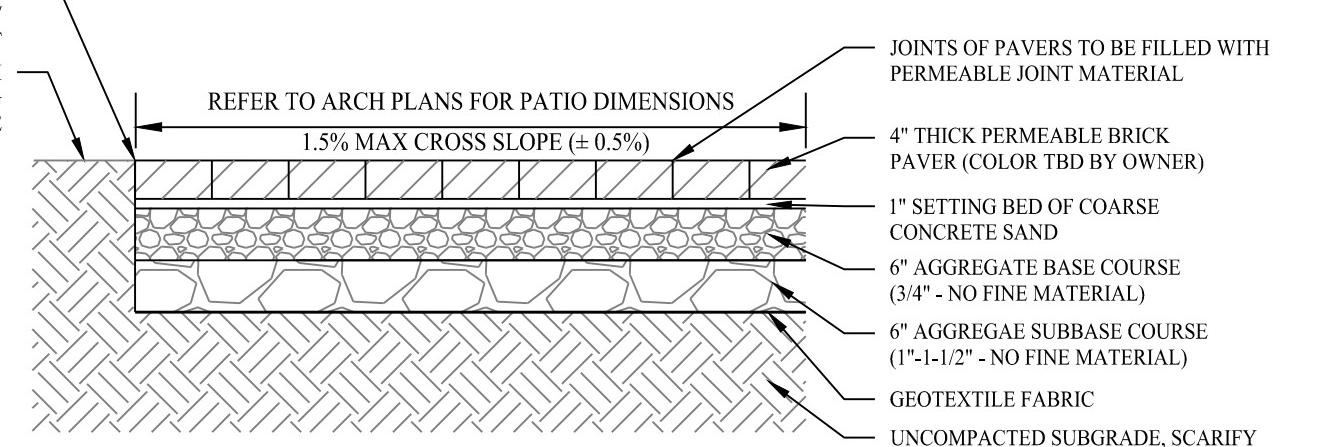
ZONING COMPLIANCE TABLE

ZONE: INDUSTRIAL DISTRICT	ZONING REQUIREMENT (INDUSTRIAL)	REQUIREMENT	EXISTING CONDITIONS	PROPOSED CONDITIONS
MINIMUM PARCEL AREA	N/A	45,687± SF	45,687± SF	
MINIMUM FRONTAGE	N/A	193 FT	193 FT	
MINIMUM FRONT YARD BUILDING SETBACK	10 FT	61.6 FT	61.6 FT	
MINIMUM SIDE YARD BUILDING SETBACK	10 FT	23.0 FT / 68.9 FT	23.0 FT / 68.9 FT	
MINIMUM REAR YARD BUILDING SETBACK	10 FT	102.5 FT	77.4 FT	
MAXIMUM BUILDING HEIGHT	39 FT	25.6 FT	25.6 FT	

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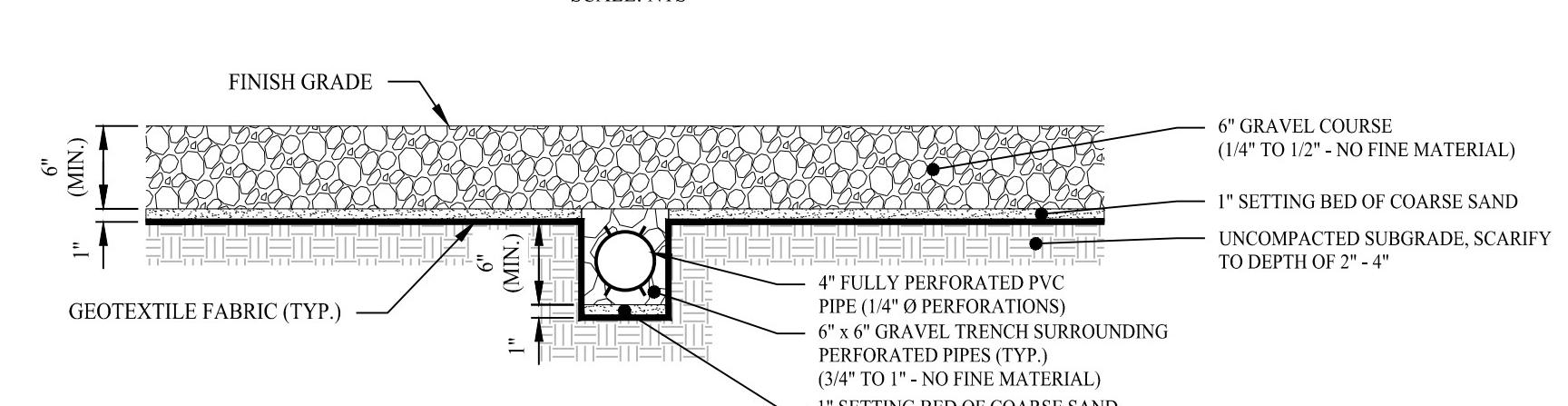
PERMEABLE PAVER DETAIL

SCALE: NTS



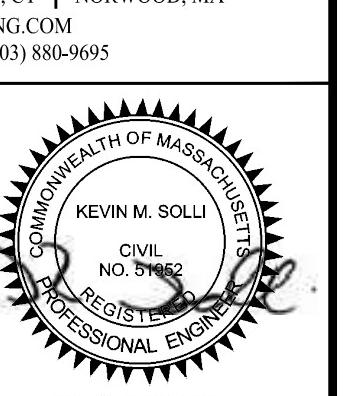
GRAVEL BEER GARDEN CROSS SECTION

SCALE: NTS



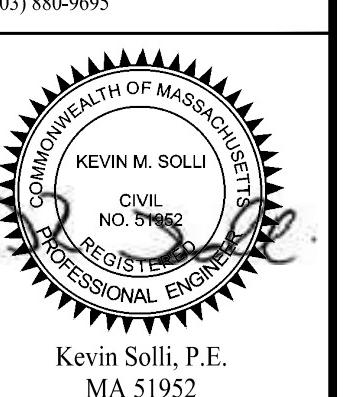
NOI SITE PLAN
2.00

1	03/26/25	REVISED NOI MATERIAL	
Rev. #:	Date	Description	
Graphic Scale:			
20	0	20	40



SOLLIENGINEERING.COM

T: (203) 880-5455 | F: (203) 880-6995



Kevin Solli, P.E.

MA 51952

Drawn By: PDS
Checked By: STM
Approved By: KMS
Project #: 25200801
Plan Date: 03/04/25
Scale: 1" = 20'

Project:
PROPOSED ARLINGTON BREWING COMPANY
15 RYDER STREET
ARLINGTON, MASSACHUSETTS
OWNER: ABC LAND LLC
MAP 57 BLOCK 2 LOT 11

Sheet Title: Sheet #:

2.00

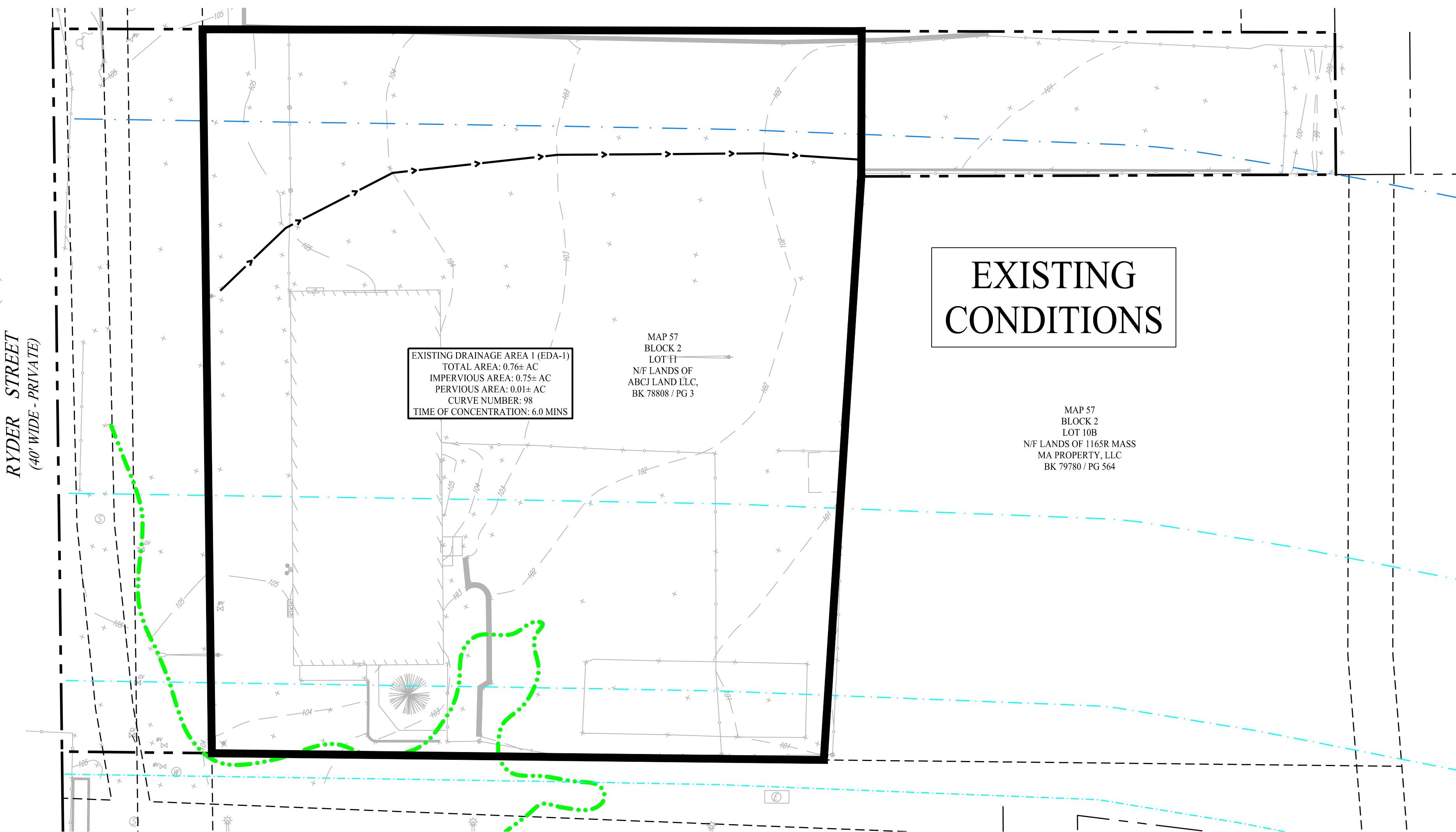
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- DEED REFERENCE: BK 78808 / PG 3
- PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE THE COMMENCEMENT OF WORK AT "S1" AND VERIFY ALL UTILITIES AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITIES OWNER AND ENGINEER RECORDS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER OF RECORD IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY AND SECURITY OF THE SITE DURING ALL PHASES OF CONSTRUCTION. THE ARCHITECT AND ENGINEER OF RECORD HAVE NOT ACTUALLY CONDUCTED A SITE SURVEY OR CHECKED METHODS OR MEANS OF THE WORK FOR SITE RESPONSIBILITY, SUPERVISION, OR TO ENFORCE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
- THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE, AND PROVIDE TRAFFIC CONTROLS NECESSARY FOR THIS PROJECT.
- CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS / PROPOSED PLOT PLAN FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING, SIDEWALKS, PATIO AREAS AND ALL OTHER IMPROVEMENTS.
- THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNS THAT ARE DESTROYED DURING CONSTRUCTION. IF THEIR OWNERSHIP, CONDITION OR REPAIR IS APPROVED BY THE ENGINEER OF RECORD, DURING CONSTRUCTION CONTRACTOR IS TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.
- THE OWNER SHALL BE RESPONSIBLE TO HAVE THE SITE MAINTAINED FREE OF ALL TRASH, LITTER, DEBRIS, AND OVERGROWN VEGETATION.
- ACCORDING TO FLOOD MAP NUMBER 25025C0017K, PANEL 17 OF 176, DATED 07/03/2024, PRODUCED BY FEMA, A PORTION OF THE SITE LIES WITHIN A ZONE "X" SHADED, AREAS OF 0.2% ANNUAL CHANCE OF FLOOD (500-YR FLOOD PLAIN).

GENERAL NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. ALL SITE WORK TO BE COMPLETED IN ACCORDANCE WITH ALL PERMITS, APPROVALS, AND CONDITIONS OF APPROVALS ISSUED BY THE TOWN OF ARLINGTON, MASSACHUSETTS FOR THIS PROJECT.
3. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN TITLED "BOUNDARY, TOPOGRAPHIC & UTILITY SURVEY; ABC BEER INC.", DATED JANUARY 21, 2025, SCALE 1"=20'. PREPARED BY CONTROL POINT ASSOCIATES, INC.
- 3.1. FIELD SURVEY PERIOD: DECEMBER 2024.
- 3.2. THE VERTICAL DATUM IS NAVD88.
4. THE PROJECT SITE CONSISTS OF ONE (1) PARCEL WITH A TOTAL LAND AREA OF APPROXIMATELY 1.09± ACRES (45,687± SF) LOCATED WITHIN THE TOWN OF ARLINGTON INDUSTRIAL (I) ZONING DISTRICT.
- 4.1. MAP 57 BLOCK 2 LOT 11 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS ASSESSORS MAPS.
- 4.2. DEED REFERENCE: BK 78808 / PG 3

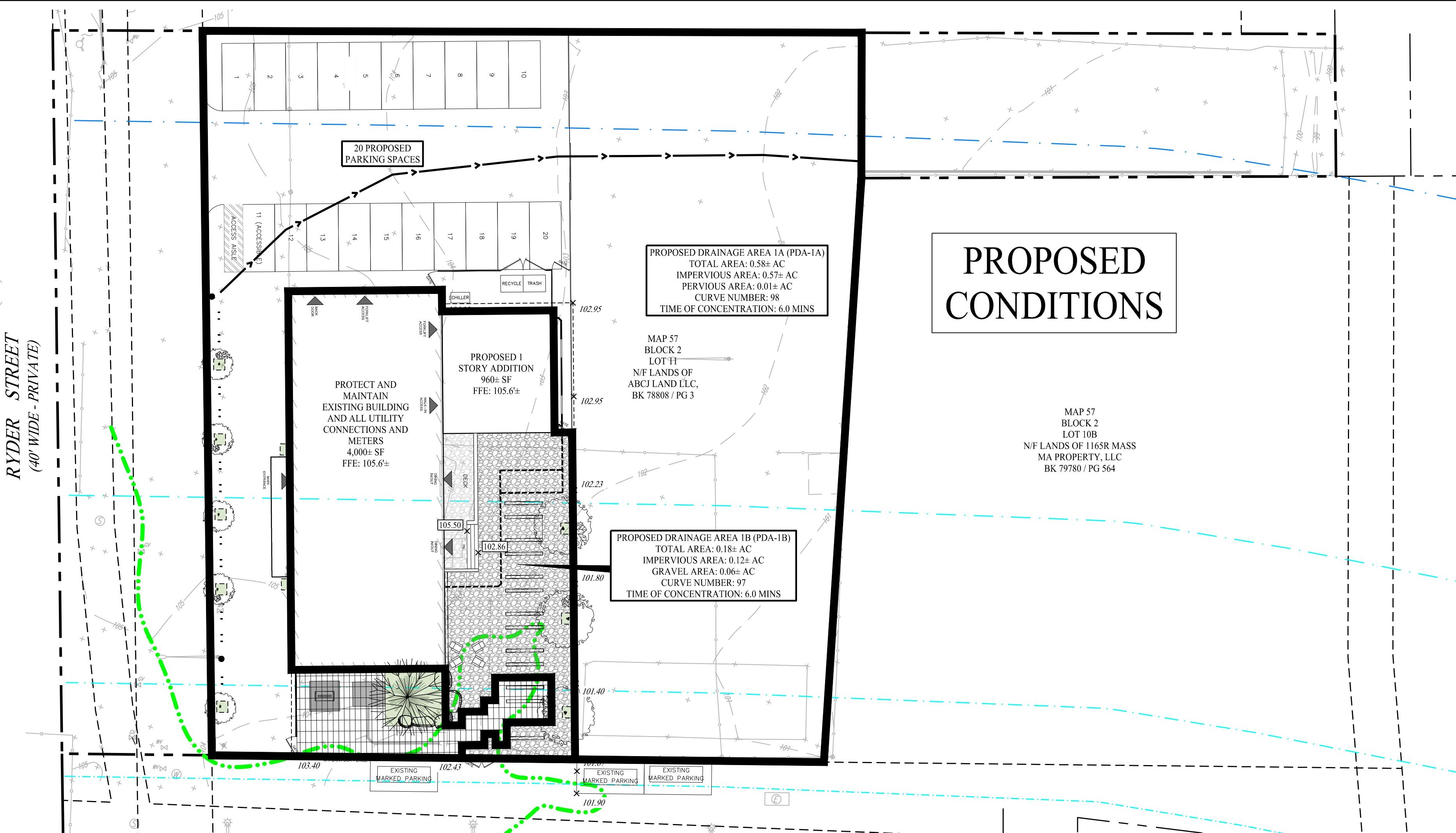
EXISTING CONDITIONS



LEGEND

PROPERTY LINE	- - -
RIGHT-OF-WAY LINE	— — —
ADJOINING LOT LINE	- - - -
LIMIT OF DRAINAGE AREA	— — — —
FLOW PATH	← → ← →

PROPOSED CONDITIONS



Rev. #:	Date	Description
Graphic Scale:		
20	0	20
40		
SOLLI ENGINEERING		
MONROE, CT W. HARTFORD, CT NORWOOD, MA		
SOLLINEERING.COM T: (203) 880-5455 F: (203) 880-9695		
Drawn By:	PDS	
Checked By:	STM	
Approved By:	KMS	
Project #:	25200801	
Plan Date:	03/26/25	
Scale:	1" = 20'	
Kevin Solli, P.E. MA 51952		
Project: PROPOSED ARLINGTON BREWING COMPANY		
15 RYDER STREET ARLINGTON, MASSACHUSETTS OWNER: ABCJ LAND LLC MAP 57 BLOCK 2 LOT 11		
Sheet Title:	DA MAP	



NOAA Atlas 14, Volume 10, Version 3
Location name: Arlington, Massachusetts, USA*
Latitude: 42.4246°, Longitude: -71.1743°
Elevation: 106 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	3.66 (2.84-4.66)	4.48 (3.47-5.71)	5.82 (4.49-7.43)	6.92 (5.30-8.90)	8.46 (6.31-11.4)	9.60 (7.03-13.3)	10.8 (7.72-15.6)	12.3 (8.24-18.0)	14.4 (9.32-21.9)	16.2 (10.3-25.2)
10-min	2.59 (2.01-3.30)	3.17 (2.46-4.04)	4.12 (3.18-5.27)	4.91 (3.77-6.32)	5.99 (4.47-8.10)	6.80 (4.98-9.41)	7.66 (5.47-11.1)	8.68 (5.83-12.7)	10.2 (6.61-15.5)	11.5 (7.27-17.8)
15-min	2.04 (1.58-2.59)	2.49 (1.93-3.17)	3.23 (2.50-4.14)	3.85 (2.95-4.95)	4.70 (3.50-6.35)	5.33 (3.90-7.38)	6.01 (4.29-8.67)	6.81 (4.58-9.99)	8.00 (5.18-12.2)	9.00 (5.70-14.0)
30-min	1.39 (1.08-1.77)	1.71 (1.32-2.17)	2.22 (1.71-2.84)	2.65 (2.03-3.40)	3.23 (2.41-4.38)	3.67 (2.69-5.09)	4.14 (2.96-5.99)	4.70 (3.16-6.90)	5.56 (3.60-8.46)	6.29 (3.98-9.76)
60-min	0.883 (0.684-1.12)	1.08 (0.839-1.38)	1.41 (1.09-1.80)	1.68 (1.29-2.17)	2.06 (1.54-2.79)	2.34 (1.71-3.24)	2.64 (1.89-3.82)	3.00 (2.02-4.41)	3.56 (2.30-5.41)	4.04 (2.55-6.26)
2-hr	0.575 (0.449-0.726)	0.705 (0.550-0.893)	0.919 (0.714-1.17)	1.10 (0.847-1.40)	1.34 (1.01-1.80)	1.52 (1.12-2.10)	1.72 (1.24-2.48)	1.96 (1.32-2.86)	2.35 (1.52-3.54)	2.68 (1.70-4.12)
3-hr	0.446 (0.349-0.561)	0.547 (0.428-0.689)	0.712 (0.555-0.900)	0.849 (0.659-1.08)	1.04 (0.783-1.39)	1.18 (0.873-1.62)	1.33 (0.964-1.91)	1.52 (1.03-2.20)	1.82 (1.18-2.73)	2.09 (1.33-3.19)
6-hr	0.289 (0.228-0.361)	0.354 (0.279-0.443)	0.460 (0.361-0.578)	0.548 (0.428-0.692)	0.669 (0.508-0.890)	0.758 (0.565-1.03)	0.855 (0.624-1.22)	0.978 (0.663-1.40)	1.17 (0.764-1.74)	1.34 (0.854-2.03)
12-hr	0.182 (0.145-0.226)	0.223 (0.177-0.278)	0.290 (0.230-0.362)	0.346 (0.272-0.434)	0.422 (0.322-0.557)	0.479 (0.359-0.647)	0.540 (0.395-0.763)	0.617 (0.420-0.877)	0.735 (0.481-1.08)	0.837 (0.536-1.26)
24-hr	0.110 (0.088-0.135)	0.136 (0.109-0.168)	0.179 (0.142-0.222)	0.215 (0.170-0.267)	0.264 (0.203-0.346)	0.300 (0.226-0.403)	0.340 (0.250-0.477)	0.389 (0.266-0.550)	0.467 (0.307-0.682)	0.535 (0.343-0.796)
2-day	0.062 (0.050-0.076)	0.078 (0.063-0.096)	0.105 (0.085-0.130)	0.128 (0.102-0.158)	0.159 (0.123-0.207)	0.181 (0.138-0.243)	0.206 (0.153-0.289)	0.238 (0.163-0.334)	0.291 (0.191-0.421)	0.337 (0.217-0.496)
3-day	0.045 (0.036-0.055)	0.057 (0.046-0.070)	0.076 (0.061-0.094)	0.092 (0.074-0.114)	0.115 (0.089-0.149)	0.131 (0.100-0.174)	0.149 (0.111-0.208)	0.172 (0.118-0.240)	0.210 (0.139-0.303)	0.244 (0.157-0.358)
4-day	0.037 (0.030-0.045)	0.046 (0.037-0.056)	0.061 (0.049-0.074)	0.073 (0.059-0.090)	0.090 (0.070-0.117)	0.103 (0.079-0.137)	0.117 (0.087-0.163)	0.135 (0.093-0.187)	0.165 (0.109-0.236)	0.191 (0.123-0.279)
7-day	0.025 (0.021-0.031)	0.031 (0.025-0.037)	0.040 (0.032-0.048)	0.047 (0.038-0.057)	0.057 (0.045-0.074)	0.065 (0.050-0.085)	0.073 (0.055-0.101)	0.084 (0.058-0.115)	0.101 (0.067-0.144)	0.116 (0.075-0.168)
10-day	0.020 (0.017-0.025)	0.024 (0.020-0.029)	0.031 (0.025-0.037)	0.036 (0.029-0.044)	0.043 (0.034-0.055)	0.049 (0.037-0.064)	0.055 (0.041-0.075)	0.062 (0.043-0.085)	0.074 (0.049-0.105)	0.084 (0.055-0.122)
20-day	0.014 (0.012-0.017)	0.016 (0.013-0.020)	0.020 (0.016-0.024)	0.023 (0.018-0.027)	0.027 (0.021-0.034)	0.030 (0.023-0.038)	0.033 (0.024-0.044)	0.036 (0.025-0.049)	0.042 (0.028-0.058)	0.046 (0.030-0.066)
30-day	0.012 (0.009-0.014)	0.013 (0.011-0.016)	0.016 (0.013-0.019)	0.018 (0.014-0.021)	0.020 (0.016-0.026)	0.023 (0.017-0.029)	0.025 (0.018-0.033)	0.027 (0.019-0.037)	0.030 (0.020-0.042)	0.033 (0.021-0.047)
45-day	0.009 (0.008-0.011)	0.011 (0.009-0.013)	0.012 (0.010-0.015)	0.014 (0.011-0.017)	0.016 (0.012-0.020)	0.017 (0.013-0.022)	0.019 (0.014-0.024)	0.020 (0.014-0.027)	0.022 (0.015-0.031)	0.024 (0.015-0.034)
60-day	0.008 (0.007-0.010)	0.009 (0.007-0.011)	0.010 (0.009-0.012)	0.012 (0.009-0.014)	0.013 (0.010-0.016)	0.014 (0.011-0.018)	0.016 (0.011-0.020)	0.017 (0.012-0.022)	0.018 (0.012-0.025)	0.019 (0.012-0.027)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

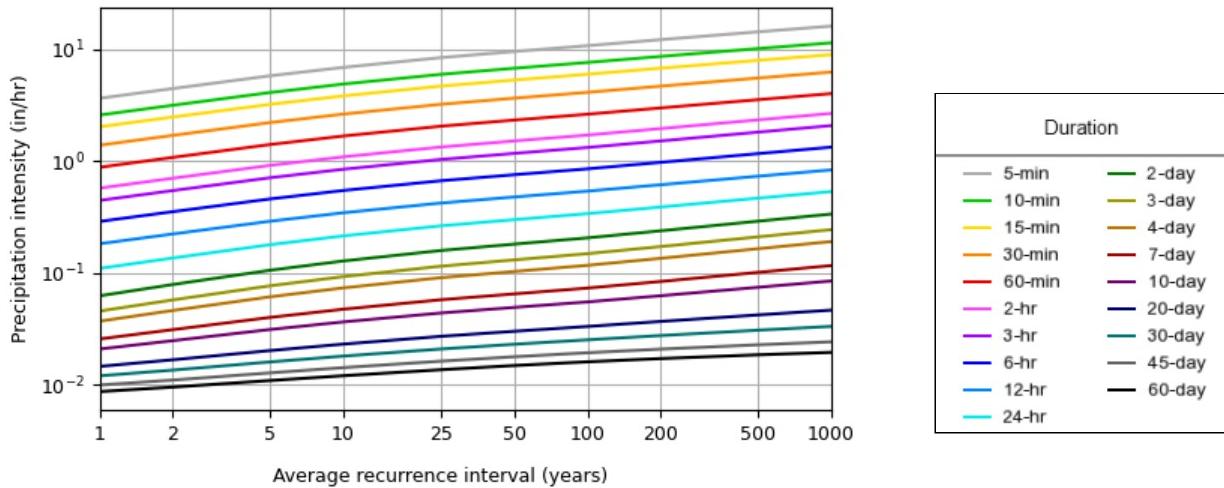
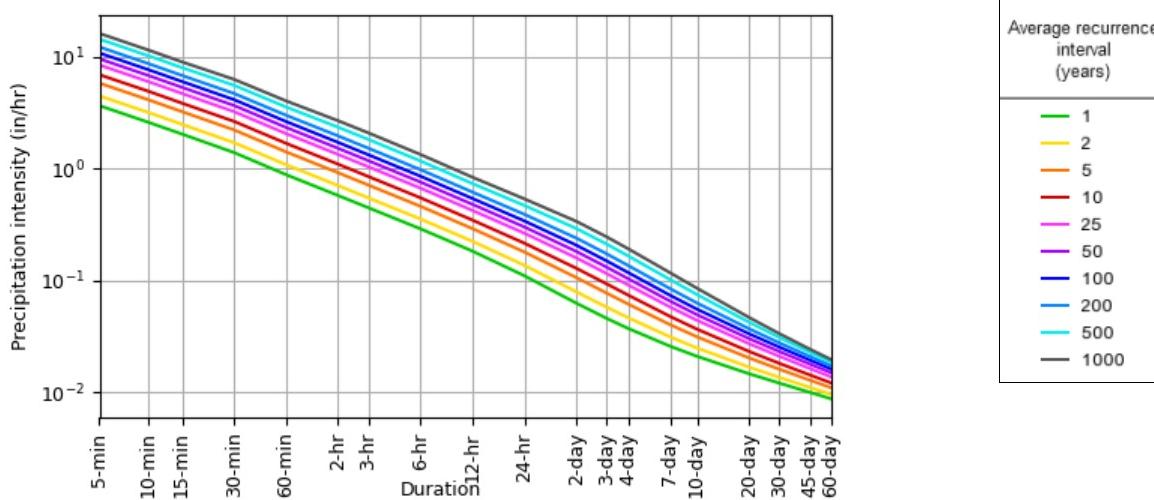
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 42.4246°, Longitude: -71.1743°

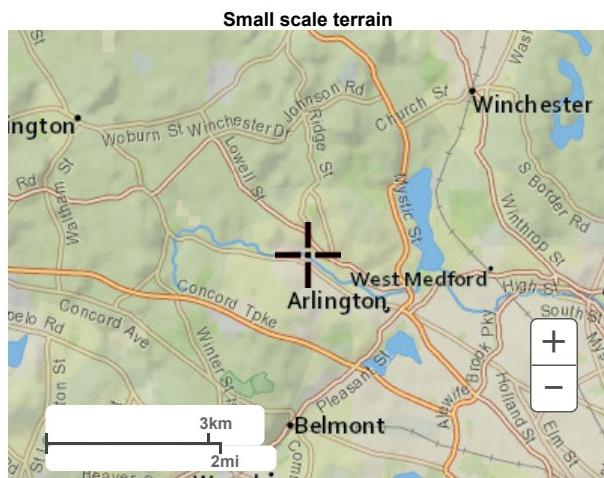


NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Tue Mar 25 22:58:35 2025

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Maps & aerials



Large scale terrain



NOAA Atlas 14, Volume 10, Version 3
Location name: Arlington, Massachusetts, USA*
Latitude: 42.4246°, Longitude: -71.1743°
Elevation: 106 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.305 (0.237-0.388)	0.373 (0.289-0.476)	0.485 (0.374-0.619)	0.577 (0.442-0.742)	0.705 (0.526-0.953)	0.800 (0.586-1.11)	0.902 (0.643-1.30)	1.02 (0.687-1.50)	1.20 (0.777-1.82)	1.35 (0.855-2.10)
10-min	0.432 (0.335-0.550)	0.529 (0.410-0.674)	0.687 (0.530-0.879)	0.819 (0.628-1.05)	0.999 (0.745-1.35)	1.13 (0.830-1.57)	1.28 (0.912-1.84)	1.45 (0.972-2.12)	1.70 (1.10-2.59)	1.91 (1.21-2.97)
15-min	0.509 (0.394-0.647)	0.622 (0.482-0.793)	0.808 (0.624-1.03)	0.962 (0.738-1.24)	1.18 (0.876-1.59)	1.33 (0.976-1.84)	1.50 (1.07-2.17)	1.70 (1.14-2.50)	2.00 (1.29-3.04)	2.25 (1.42-3.49)
30-min	0.696 (0.539-0.885)	0.853 (0.661-1.09)	1.11 (0.857-1.42)	1.32 (1.02-1.70)	1.62 (1.21-2.19)	1.84 (1.34-2.54)	2.07 (1.48-3.00)	2.35 (1.58-3.45)	2.78 (1.80-4.23)	3.14 (1.99-4.88)
60-min	0.883 (0.684-1.12)	1.08 (0.839-1.38)	1.41 (1.09-1.80)	1.68 (1.29-2.17)	2.06 (1.54-2.79)	2.34 (1.71-3.24)	2.64 (1.89-3.82)	3.00 (2.02-4.41)	3.56 (2.30-5.41)	4.04 (2.55-6.26)
2-hr	1.15 (0.898-1.45)	1.41 (1.10-1.79)	1.84 (1.43-2.33)	2.19 (1.70-2.80)	2.68 (2.02-3.61)	3.04 (2.25-4.20)	3.43 (2.48-4.96)	3.93 (2.65-5.72)	4.70 (3.05-7.08)	5.36 (3.40-8.25)
3-hr	1.34 (1.05-1.69)	1.64 (1.29-2.07)	2.14 (1.67-2.70)	2.55 (1.98-3.24)	3.12 (2.35-4.18)	3.53 (2.62-4.86)	3.99 (2.90-5.75)	4.57 (3.09-6.62)	5.48 (3.56-8.21)	6.27 (3.99-9.58)
6-hr	1.73 (1.37-2.17)	2.12 (1.67-2.66)	2.76 (2.17-3.46)	3.28 (2.56-4.15)	4.01 (3.04-5.33)	4.54 (3.39-6.19)	5.12 (3.74-7.32)	5.86 (3.98-8.41)	7.01 (4.58-10.4)	8.02 (5.11-12.1)
12-hr	2.20 (1.75-2.73)	2.70 (2.14-3.35)	3.50 (2.77-4.37)	4.17 (3.28-5.23)	5.09 (3.89-6.72)	5.77 (4.33-7.80)	6.52 (4.76-9.20)	7.43 (5.07-10.6)	8.86 (5.80-13.0)	10.1 (6.46-15.1)
24-hr	2.64 (2.11-3.26)	3.27 (2.62-4.04)	4.30 (3.43-5.33)	5.16 (4.09-6.43)	6.34 (4.88-8.32)	7.21 (5.44-9.69)	8.16 (6.01-11.5)	9.36 (6.40-13.2)	11.2 (7.38-16.4)	12.9 (8.25-19.1)
2-day	3.00 (2.42-3.67)	3.79 (3.06-4.65)	5.08 (4.08-6.25)	6.16 (4.91-7.61)	7.63 (5.92-9.97)	8.71 (6.63-11.7)	9.91 (7.38-13.9)	11.5 (7.87-16.0)	14.0 (9.21-20.2)	16.2 (10.4-23.8)
3-day	3.29 (2.66-4.01)	4.14 (3.35-5.05)	5.53 (4.46-6.78)	6.69 (5.36-8.24)	8.28 (6.45-10.8)	9.44 (7.22-12.6)	10.7 (8.03-15.0)	12.4 (8.55-17.3)	15.2 (10.0-21.8)	17.6 (11.4-25.8)
4-day	3.56 (2.89-4.33)	4.44 (3.60-5.40)	5.88 (4.75-7.18)	7.07 (5.68-8.68)	8.72 (6.80-11.3)	9.91 (7.60-13.2)	11.3 (8.43-15.7)	13.0 (8.96-18.0)	15.9 (10.5-22.7)	18.4 (11.9-26.8)
7-day	4.32 (3.53-5.22)	5.24 (4.27-6.34)	6.73 (5.48-8.17)	7.98 (6.45-9.73)	9.69 (7.60-12.4)	10.9 (8.41-14.4)	12.3 (9.25-17.0)	14.1 (9.78-19.4)	17.0 (11.3-24.2)	19.6 (12.7-28.4)
10-day	5.02 (4.12-6.04)	5.96 (4.88-7.18)	7.50 (6.12-9.07)	8.77 (7.12-10.7)	10.5 (8.27-13.4)	11.8 (9.10-15.4)	13.2 (9.92-18.1)	15.0 (10.4-20.6)	17.9 (11.9-25.3)	20.4 (13.2-29.3)
20-day	7.01 (5.80-8.38)	8.04 (6.64-9.62)	9.72 (7.99-11.7)	11.1 (9.07-13.4)	13.0 (10.3-16.4)	14.5 (11.1-18.5)	16.0 (11.9-21.2)	17.7 (12.4-24.0)	20.3 (13.5-28.3)	22.4 (14.5-31.9)
30-day	8.67 (7.19-10.3)	9.76 (8.09-11.6)	11.5 (9.53-13.8)	13.0 (10.7-15.6)	15.1 (11.9-18.7)	16.6 (12.8-21.1)	18.2 (13.5-23.8)	19.9 (14.0-26.7)	22.2 (14.9-30.8)	24.0 (15.6-34.0)
45-day	10.7 (8.96-12.7)	11.9 (9.92-14.1)	13.8 (11.5-16.4)	15.4 (12.7-18.4)	17.6 (13.9-21.7)	19.2 (14.8-24.2)	20.9 (15.4-27.0)	22.5 (15.9-30.1)	24.6 (16.6-34.0)	26.2 (17.1-36.9)
60-day	12.5 (10.5-14.8)	13.7 (11.5-16.2)	15.7 (13.1-18.7)	17.4 (14.4-20.7)	19.6 (15.6-24.1)	21.4 (16.5-26.7)	23.1 (17.1-29.6)	24.7 (17.5-32.9)	26.7 (18.0-36.7)	28.1 (18.4-39.4)

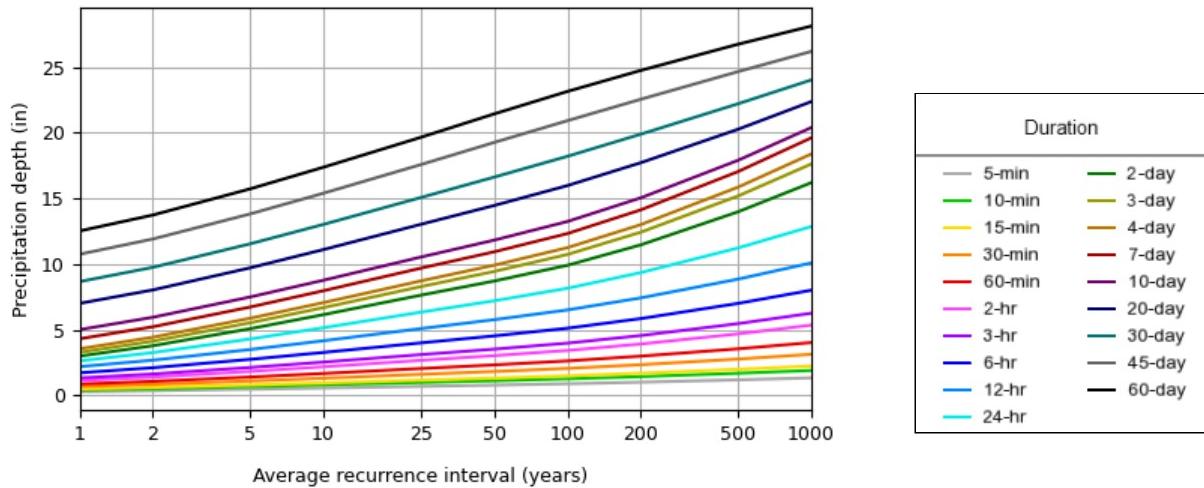
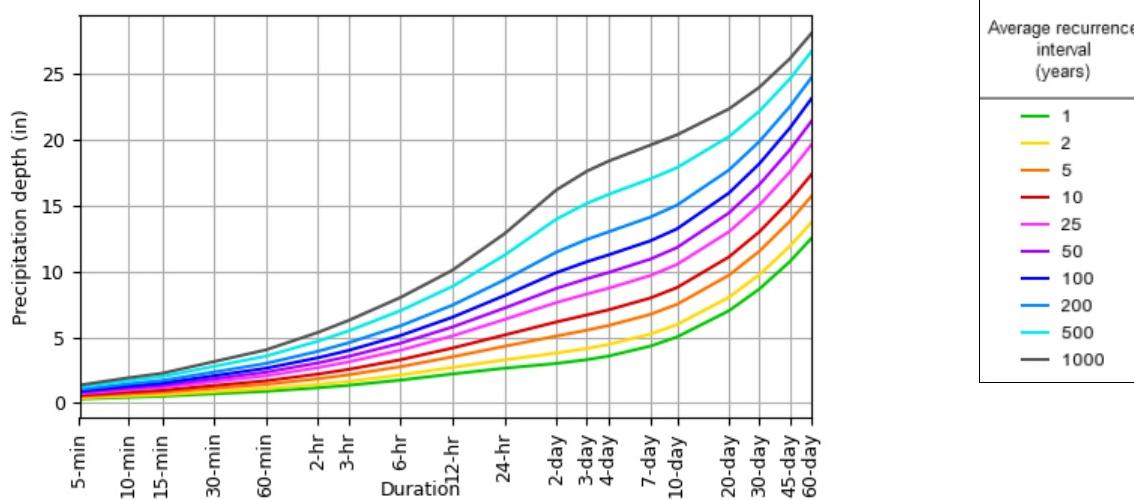
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 42.4246°, Longitude: -71.1743°

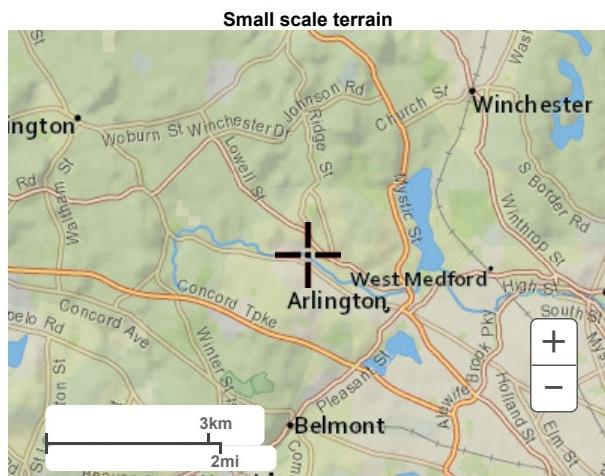


NOAA Atlas 14, Volume 10, Version 3

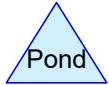
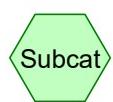
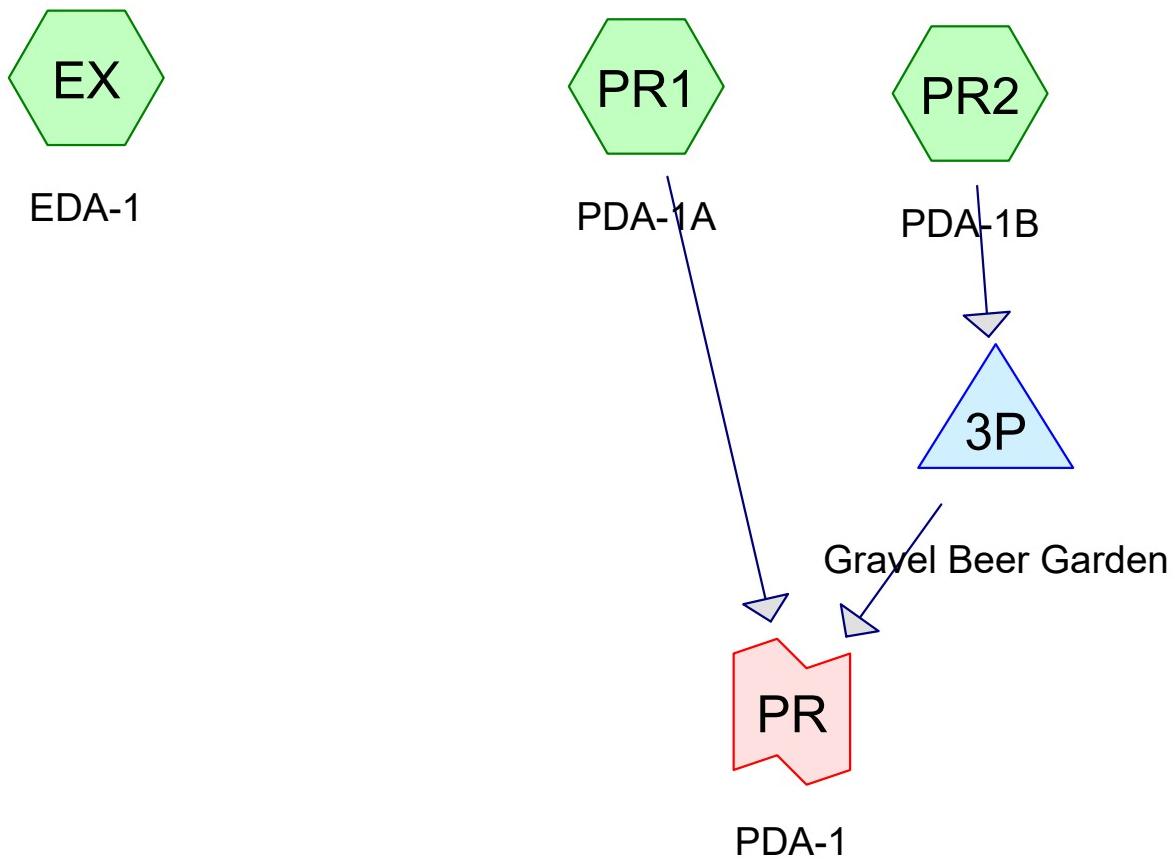
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Maps & aerials



Large scale terrain



Routing Diagram for Arlington SW Analysis
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Arlington SW Analysis

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.27	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.16	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.34	2
4	50-yr	Type III 24-hr		Default	24.00	1	7.21	2
5	100-yr	Type III 24-hr		Default	24.00	1	8.16	2

Arlington SW Analysis

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Type III 24-hr 2-yr Rainfall=3.27"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EDA-1Runoff Area=0.760 ac 98.68% Impervious Runoff Depth>3.04"
Tc=6.0 min CN=98 Runoff=2.36 cfs 0.192 af**SubcatchmentPR1: PDA-1A**Runoff Area=0.580 ac 98.28% Impervious Runoff Depth>3.04"
Tc=6.0 min CN=98 Runoff=1.80 cfs 0.147 af**SubcatchmentPR2: PDA-1B**Runoff Area=0.180 ac 66.67% Impervious Runoff Depth>2.71"
Tc=6.0 min CN=95 Runoff=0.53 cfs 0.041 af**Pond 3P: Gravel Beer Garden**Peak Elev=101.51' Storage=365 cf Inflow=0.53 cfs 0.041 af
Discarded=0.01 cfs 0.015 af Primary=0.46 cfs 0.022 af Outflow=0.47 cfs 0.037 af**Link PR: PDA-1**Inflow=2.23 cfs 0.168 af
Primary=2.23 cfs 0.168 af

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Type III 24-hr 2-yr Rainfall=3.27"

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Summary for Subcatchment EX: EDA-1

Runoff = 2.36 cfs @ 12.09 hrs, Volume= 0.192 af, Depth> 3.04"

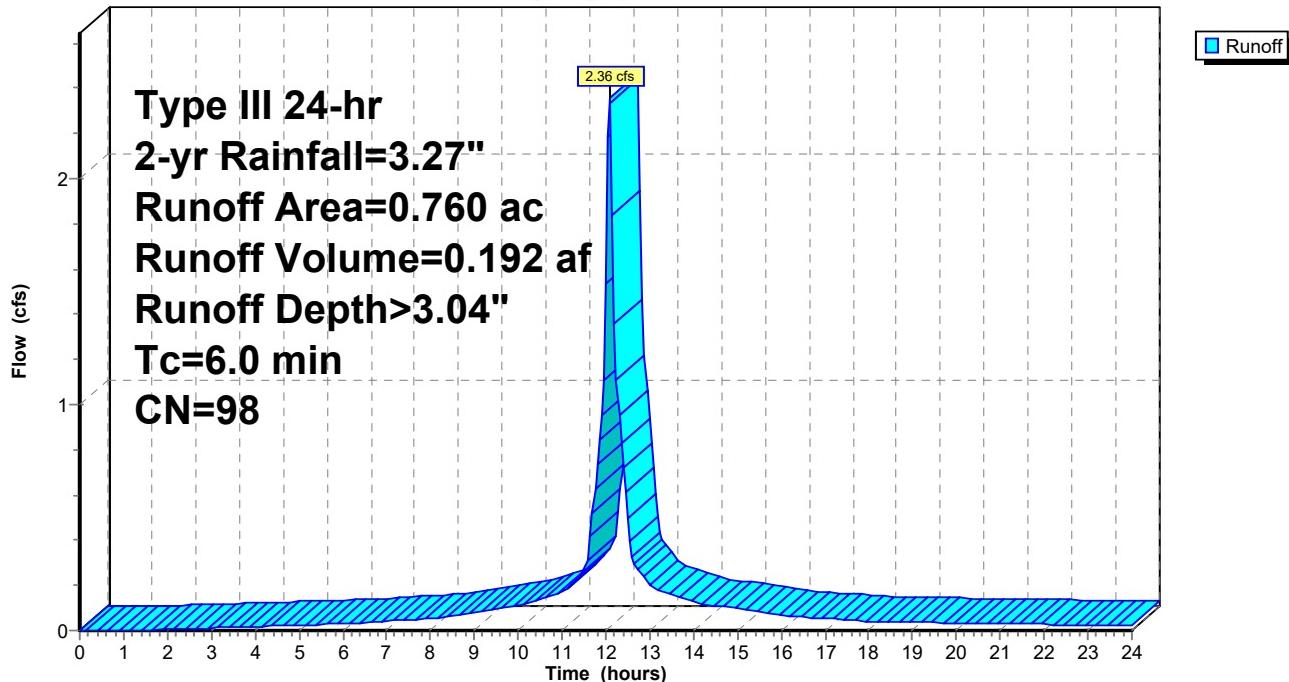
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.27"

Area (ac)	CN	Description
0.750	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.760	98	Weighted Average
0.010		1.32% Pervious Area
0.750		98.68% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment EX: EDA-1

Hydrograph



Arlington SW Analysis

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Type III 24-hr 2-yr Rainfall=3.27"

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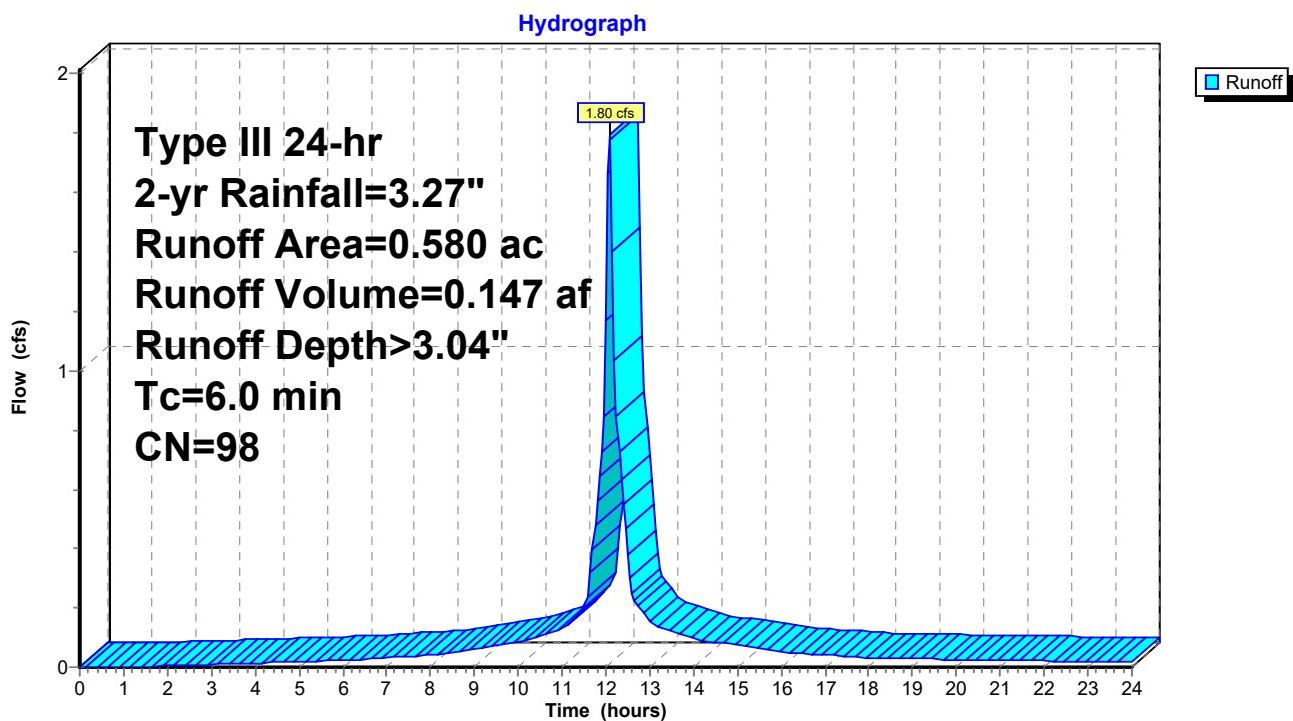
Summary for Subcatchment PR1: PDA-1A

Runoff = 1.80 cfs @ 12.09 hrs, Volume= 0.147 af, Depth> 3.04"
Routed to Link PR : PDA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.27"

Area (ac)	CN	Description
0.570	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.580	98	Weighted Average
0.010		1.72% Pervious Area
0.570		98.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment PR1: PDA-1A

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Type III 24-hr 2-yr Rainfall=3.27"

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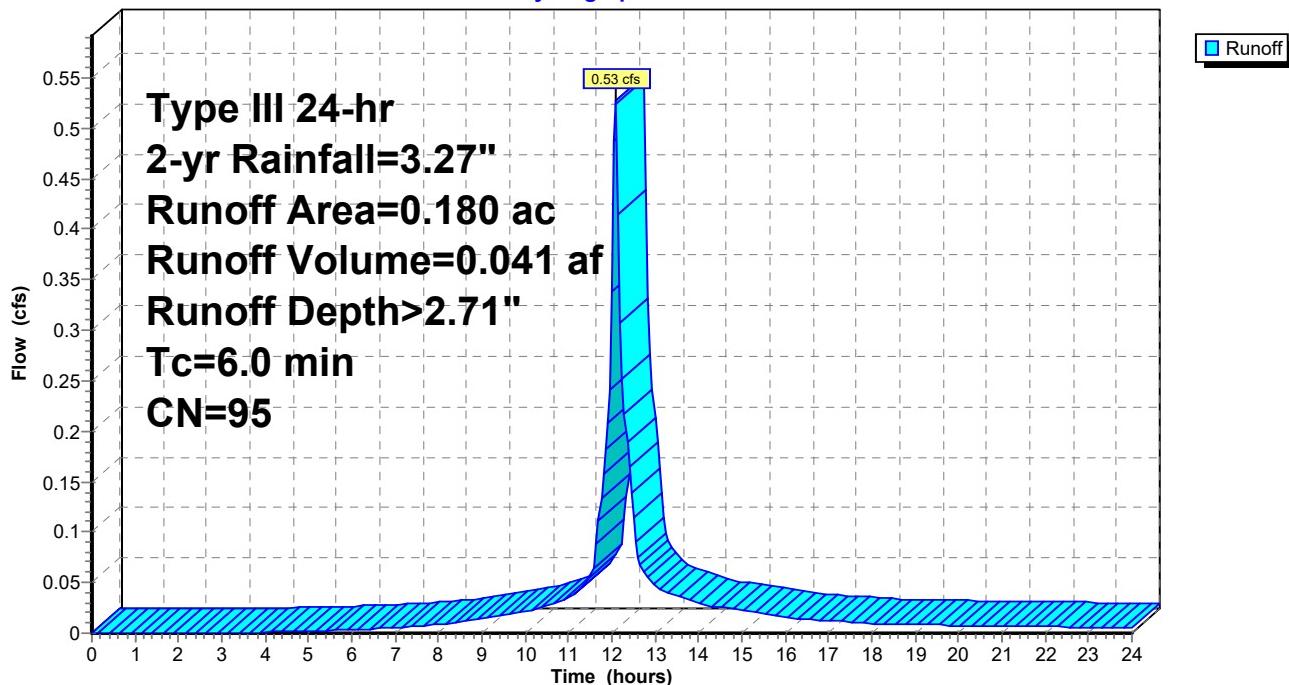
Summary for Subcatchment PR2: PDA-1B

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 2.71"
Routed to Pond 3P : Gravel Beer Garden

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.27"

Area (ac)	CN	Description
0.120	98	Roofs, HSG D
*	0.060	GRAVEL PATIO
0.180	95	Weighted Average
0.060		33.33% Pervious Area
0.120		66.67% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment PR2: PDA-1B**Hydrograph**

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Type III 24-hr 2-yr Rainfall=3.27"

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Summary for Pond 3P: Gravel Beer Garden

Inflow Area = 0.180 ac, 66.67% Impervious, Inflow Depth > 2.71" for 2-yr event
 Inflow = 0.53 cfs @ 12.09 hrs, Volume= 0.041 af
 Outflow = 0.47 cfs @ 12.13 hrs, Volume= 0.037 af, Atten= 10%, Lag= 2.5 min
 Discarded = 0.01 cfs @ 12.13 hrs, Volume= 0.015 af
 Primary = 0.46 cfs @ 12.13 hrs, Volume= 0.022 af
 Routed to Link PR : PDA-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.51' @ 12.13 hrs Surf.Area= 2,622 sf Storage= 365 cf

Plug-Flow detention time= 98.9 min calculated for 0.037 af (90% of inflow)
 Center-of-Mass det. time= 51.6 min (831.5 - 779.9)

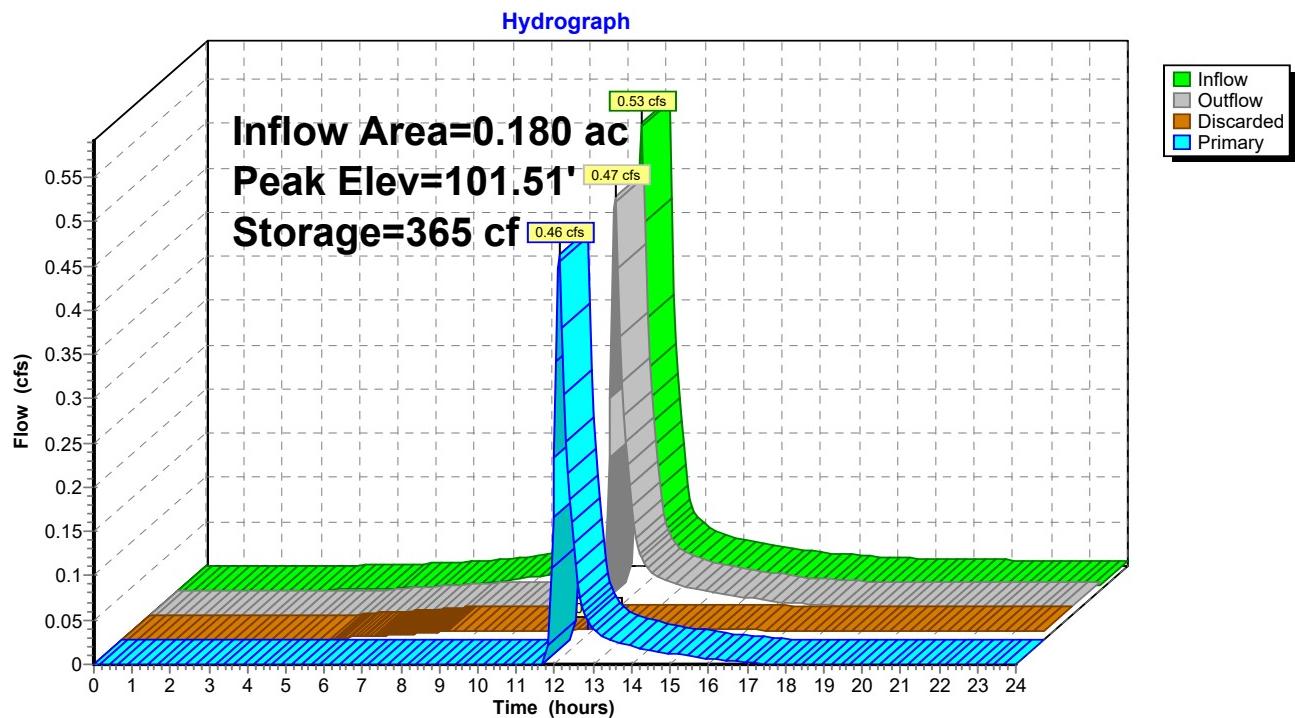
Volume	Invert	Avail.Storage	Storage Description
#1	100.67'	537 cf	Custom Stage Data (Conic) Listed below (Recalc) 1,343 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
100.67	45	0	0	45
101.16	45	22	22	57
101.17	2,622	10	32	2,634
101.67	2,622	1,311	1,343	2,724

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.67'	0.170 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 94.00'
#2	Primary	101.40'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.13 hrs HW=101.50' (Free Discharge)
 ↗1=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.45 cfs @ 12.13 hrs HW=101.50' (Free Discharge)
 ↗2=Broad-Crested Rectangular Weir(Weir Controls 0.45 cfs @ 0.87 fps)

Pond 3P: Gravel Beer Garden

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Type III 24-hr 2-yr Rainfall=3.27"

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Stage-Discharge for Pond 3P: Gravel Beer Garden

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
100.67	0.00	0.00	0.00	101.19	0.01	0.01	0.00
100.68	0.00	0.00	0.00	101.20	0.01	0.01	0.00
100.69	0.00	0.00	0.00	101.21	0.01	0.01	0.00
100.70	0.00	0.00	0.00	101.22	0.01	0.01	0.00
100.71	0.00	0.00	0.00	101.23	0.01	0.01	0.00
100.72	0.00	0.00	0.00	101.24	0.01	0.01	0.00
100.73	0.00	0.00	0.00	101.25	0.01	0.01	0.00
100.74	0.00	0.00	0.00	101.26	0.01	0.01	0.00
100.75	0.00	0.00	0.00	101.27	0.01	0.01	0.00
100.76	0.00	0.00	0.00	101.28	0.01	0.01	0.00
100.77	0.00	0.00	0.00	101.29	0.01	0.01	0.00
100.78	0.00	0.00	0.00	101.30	0.01	0.01	0.00
100.79	0.00	0.00	0.00	101.31	0.01	0.01	0.00
100.80	0.00	0.00	0.00	101.32	0.01	0.01	0.00
100.81	0.00	0.00	0.00	101.33	0.01	0.01	0.00
100.82	0.00	0.00	0.00	101.34	0.01	0.01	0.00
100.83	0.00	0.00	0.00	101.35	0.01	0.01	0.00
100.84	0.00	0.00	0.00	101.36	0.01	0.01	0.00
100.85	0.00	0.00	0.00	101.37	0.01	0.01	0.00
100.86	0.00	0.00	0.00	101.38	0.01	0.01	0.00
100.87	0.00	0.00	0.00	101.39	0.01	0.01	0.00
100.88	0.00	0.00	0.00	101.40	0.01	0.01	0.00
100.89	0.00	0.00	0.00	101.41	0.02	0.01	0.01
100.90	0.00	0.00	0.00	101.42	0.05	0.01	0.04
100.91	0.00	0.00	0.00	101.43	0.08	0.01	0.07
100.92	0.00	0.00	0.00	101.44	0.12	0.01	0.11
100.93	0.00	0.00	0.00	101.45	0.16	0.01	0.15
100.94	0.00	0.00	0.00	101.46	0.21	0.01	0.20
100.95	0.00	0.00	0.00	101.47	0.26	0.01	0.25
100.96	0.00	0.00	0.00	101.48	0.32	0.01	0.30
100.97	0.00	0.00	0.00	101.49	0.37	0.01	0.36
100.98	0.00	0.00	0.00	101.50	0.44	0.01	0.43
100.99	0.00	0.00	0.00	101.51	0.50	0.01	0.49
101.00	0.00	0.00	0.00	101.52	0.57	0.01	0.56
101.01	0.00	0.00	0.00	101.53	0.64	0.01	0.63
101.02	0.00	0.00	0.00	101.54	0.72	0.01	0.70
101.03	0.00	0.00	0.00	101.55	0.79	0.01	0.78
101.04	0.00	0.00	0.00	101.56	0.87	0.01	0.86
101.05	0.00	0.00	0.00	101.57	0.95	0.01	0.94
101.06	0.00	0.00	0.00	101.58	1.04	0.01	1.03
101.07	0.00	0.00	0.00	101.59	1.13	0.01	1.11
101.08	0.00	0.00	0.00	101.60	1.21	0.01	1.20
101.09	0.00	0.00	0.00	101.61	1.31	0.01	1.30
101.10	0.00	0.00	0.00	101.62	1.40	0.01	1.39
101.11	0.00	0.00	0.00	101.63	1.50	0.01	1.49
101.12	0.00	0.00	0.00	101.64	1.60	0.01	1.58
101.13	0.00	0.00	0.00	101.65	1.70	0.01	1.69
101.14	0.00	0.00	0.00	101.66	1.80	0.01	1.79
101.15	0.00	0.00	0.00	101.67	1.91	0.01	1.89
101.16	0.00	0.00	0.00				
101.17	0.01	0.01	0.00				
101.18	0.01	0.01	0.00				

Arlington SW Analysis

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Type III 24-hr 2-yr Rainfall=3.27"

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Stage-Area-Storage for Pond 3P: Gravel Beer Garden

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
100.67	45	45	0
100.69	45	45	0
100.71	45	46	1
100.73	45	46	1
100.75	45	47	1
100.77	45	47	2
100.79	45	48	2
100.81	45	48	3
100.83	45	49	3
100.85	45	49	3
100.87	45	50	4
100.89	45	50	4
100.91	45	51	4
100.93	45	51	5
100.95	45	52	5
100.97	45	52	5
100.99	45	53	6
101.01	45	53	6
101.03	45	54	6
101.05	45	54	7
101.07	45	55	7
101.09	45	55	8
101.11	45	55	8
101.13	45	56	8
101.15	45	56	9
101.17	2,622	2,634	13
101.19	2,622	2,637	34
101.21	2,622	2,641	55
101.23	2,622	2,645	76
101.25	2,622	2,648	97
101.27	2,622	2,652	118
101.29	2,622	2,655	139
101.31	2,622	2,659	160
101.33	2,622	2,663	181
101.35	2,622	2,666	202
101.37	2,622	2,670	223
101.39	2,622	2,674	244
101.41	2,622	2,677	265
101.43	2,622	2,681	286
101.45	2,622	2,684	306
101.47	2,622	2,688	327
101.49	2,622	2,692	348
101.51	2,622	2,695	369
101.53	2,622	2,699	390
101.55	2,622	2,703	411
101.57	2,622	2,706	432
101.59	2,622	2,710	453
101.61	2,622	2,714	474
101.63	2,622	2,717	495
101.65	2,622	2,721	516
101.67	2,622	2,724	537

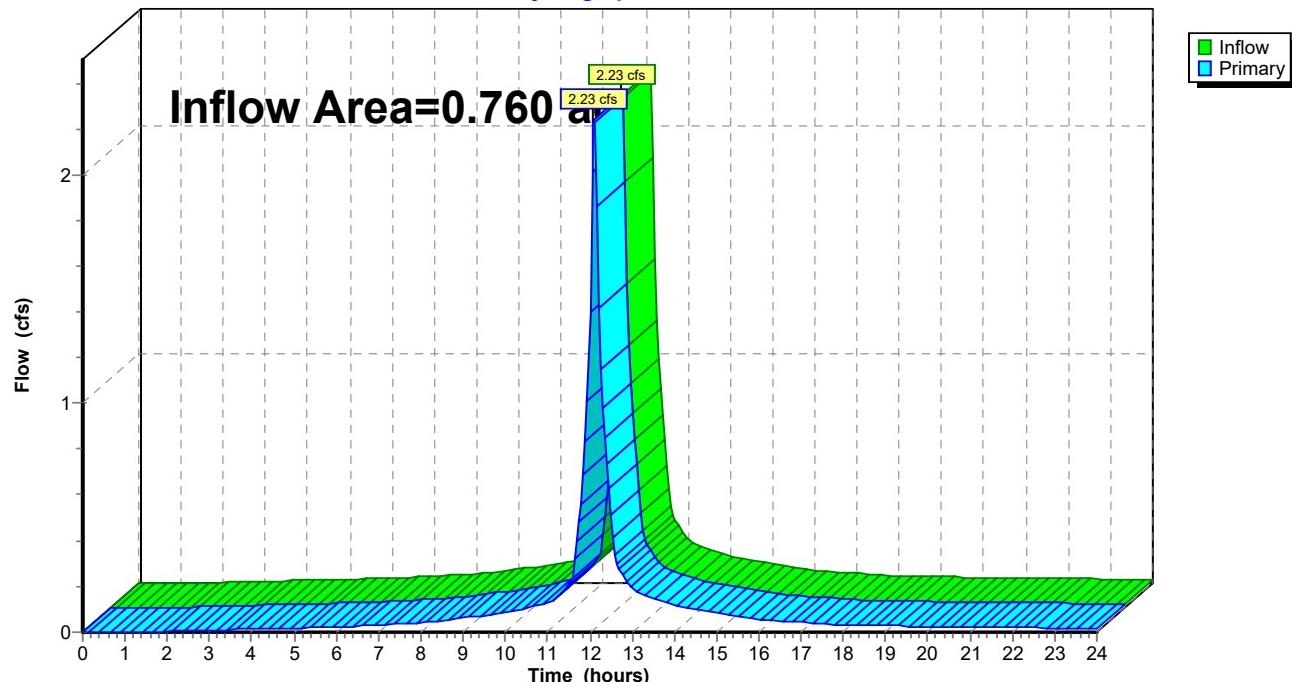
Summary for Link PR: PDA-1

Inflow Area = 0.760 ac, 90.79% Impervious, Inflow Depth > 2.66" for 2-yr event

Inflow = 2.23 cfs @ 12.09 hrs, Volume= 0.168 af

Primary = 2.23 cfs @ 12.09 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR: PDA-1**Hydrograph**

Arlington SW Analysis

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Type III 24-hr 10-yr Rainfall=5.16"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EDA-1Runoff Area=0.760 ac 98.68% Impervious Runoff Depth>4.92"
Tc=6.0 min CN=98 Runoff=3.75 cfs 0.312 af**SubcatchmentPR1: PDA-1A**Runoff Area=0.580 ac 98.28% Impervious Runoff Depth>4.92"
Tc=6.0 min CN=98 Runoff=2.86 cfs 0.238 af**SubcatchmentPR2: PDA-1B**Runoff Area=0.180 ac 66.67% Impervious Runoff Depth>4.58"
Tc=6.0 min CN=95 Runoff=0.86 cfs 0.069 af**Pond 3P: Gravel Beer Garden**Peak Elev=101.55' Storage=412 cf Inflow=0.86 cfs 0.069 af
Discarded=0.01 cfs 0.017 af Primary=0.79 cfs 0.046 af Outflow=0.80 cfs 0.063 af**Link PR: PDA-1**Inflow=3.61 cfs 0.284 af
Primary=3.61 cfs 0.284 af

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Type III 24-hr 10-yr Rainfall=5.16"

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Summary for Subcatchment EX: EDA-1

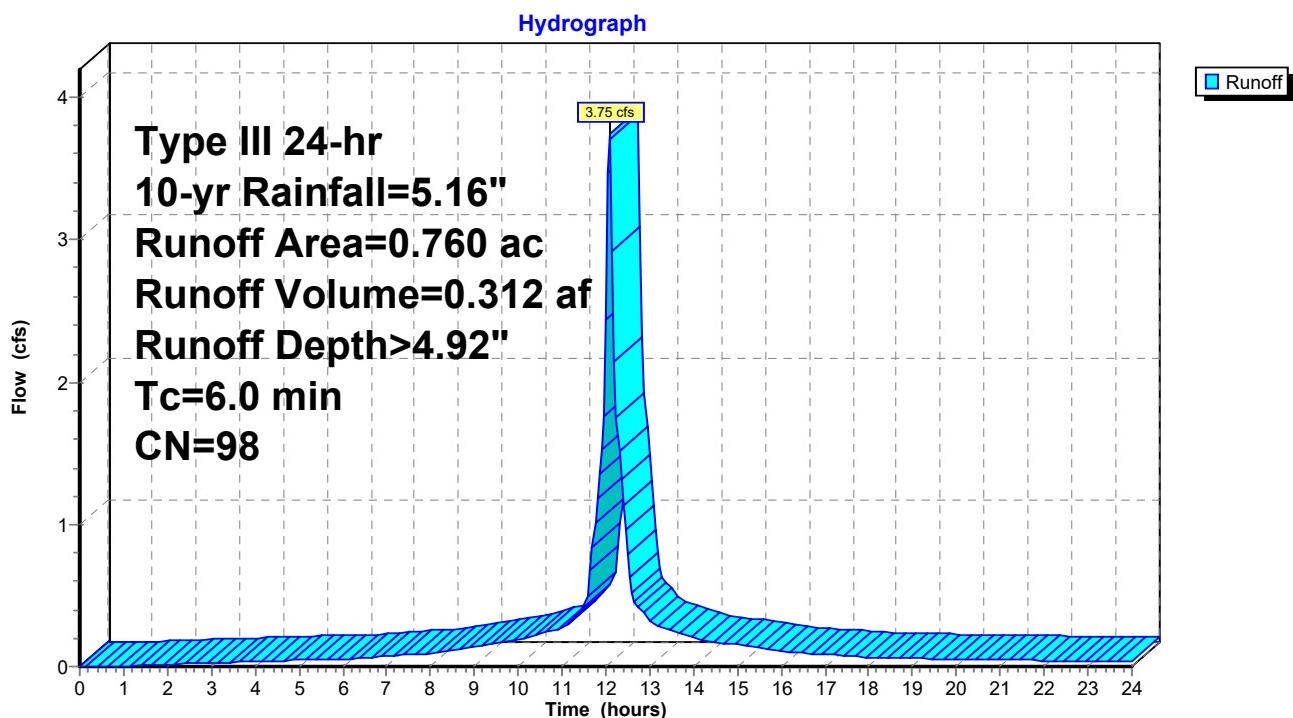
Runoff = 3.75 cfs @ 12.09 hrs, Volume= 0.312 af, Depth> 4.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.16"

Area (ac)	CN	Description
0.750	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.760	98	Weighted Average
0.010		1.32% Pervious Area
0.750		98.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment EX: EDA-1



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Type III 24-hr 10-yr Rainfall=5.16"

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Summary for Subcatchment PR1: PDA-1A

Runoff = 2.86 cfs @ 12.09 hrs, Volume= 0.238 af, Depth> 4.92"
Routed to Link PR : PDA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.16"

Area (ac)	CN	Description
0.570	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.580	98	Weighted Average
0.010		1.72% Pervious Area
0.570		98.28% Impervious Area

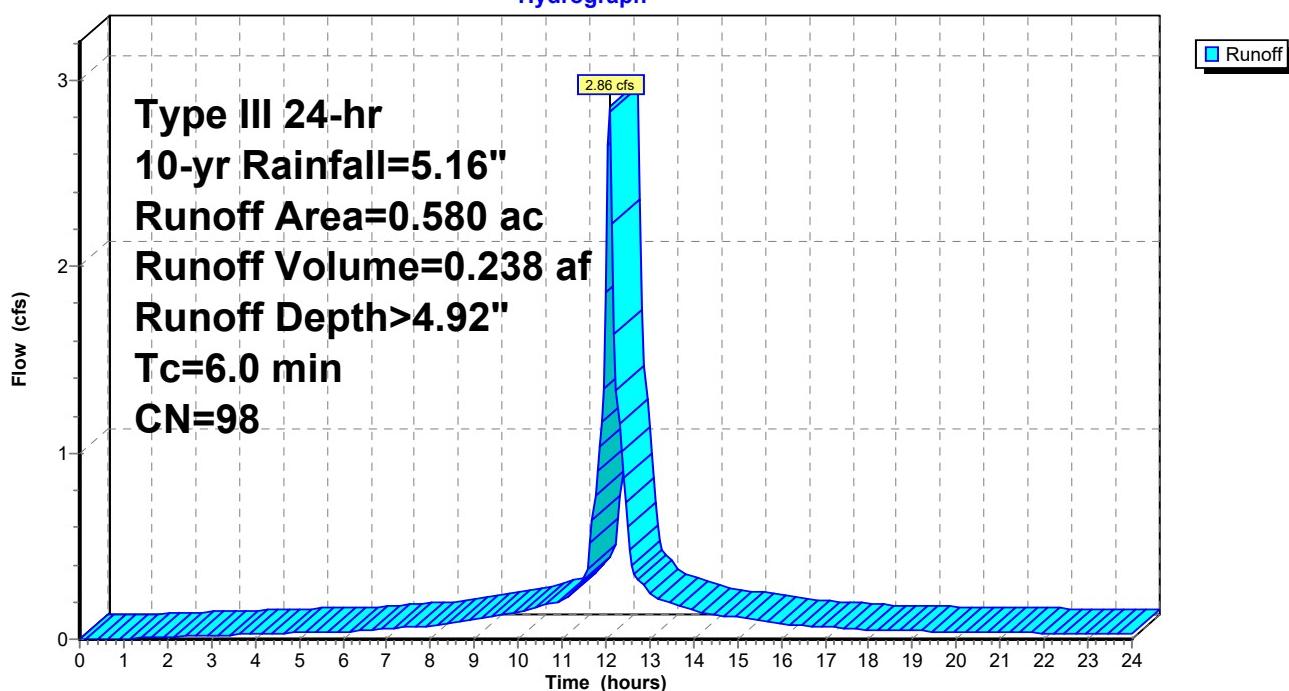
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	

6.0

Direct Entry, Tc

Subcatchment PR1: PDA-1A

Hydrograph



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Type III 24-hr 10-yr Rainfall=5.16"

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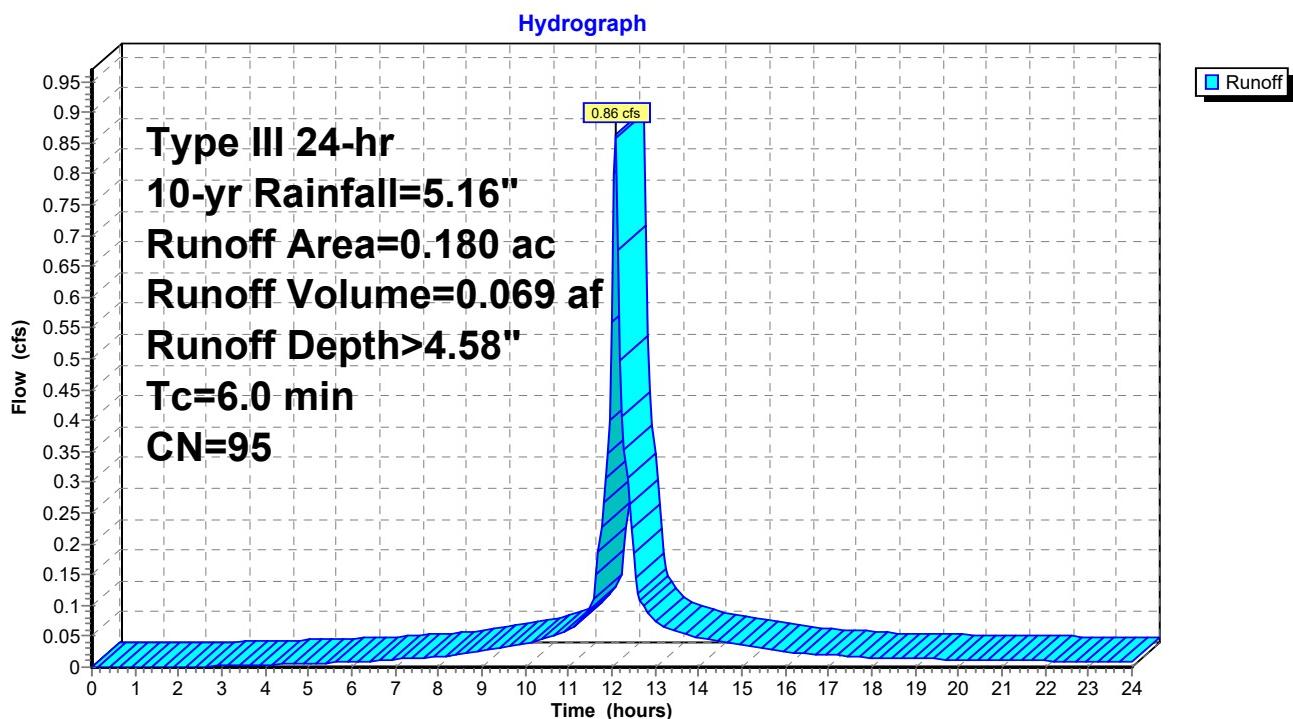
Summary for Subcatchment PR2: PDA-1B

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 4.58"
Routed to Pond 3P : Gravel Beer Garden

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.16"

Area (ac)	CN	Description
0.120	98	Roofs, HSG D
*	0.060	GRAVEL PATIO
0.180	95	Weighted Average
0.060		33.33% Pervious Area
0.120		66.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment PR2: PDA-1B

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Type III 24-hr 10-yr Rainfall=5.16"

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Summary for Pond 3P: Gravel Beer Garden

Inflow Area = 0.180 ac, 66.67% Impervious, Inflow Depth > 4.58" for 10-yr event
 Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.069 af
 Outflow = 0.80 cfs @ 12.12 hrs, Volume= 0.063 af, Atten= 8%, Lag= 2.1 min
 Discarded = 0.01 cfs @ 12.12 hrs, Volume= 0.017 af
 Primary = 0.79 cfs @ 12.12 hrs, Volume= 0.046 af
 Routed to Link PR : PDA-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.55' @ 12.12 hrs Surf.Area= 2,622 sf Storage= 412 cf

Plug-Flow detention time= 68.4 min calculated for 0.063 af (92% of inflow)
 Center-of-Mass det. time= 26.8 min (793.8 - 767.0)

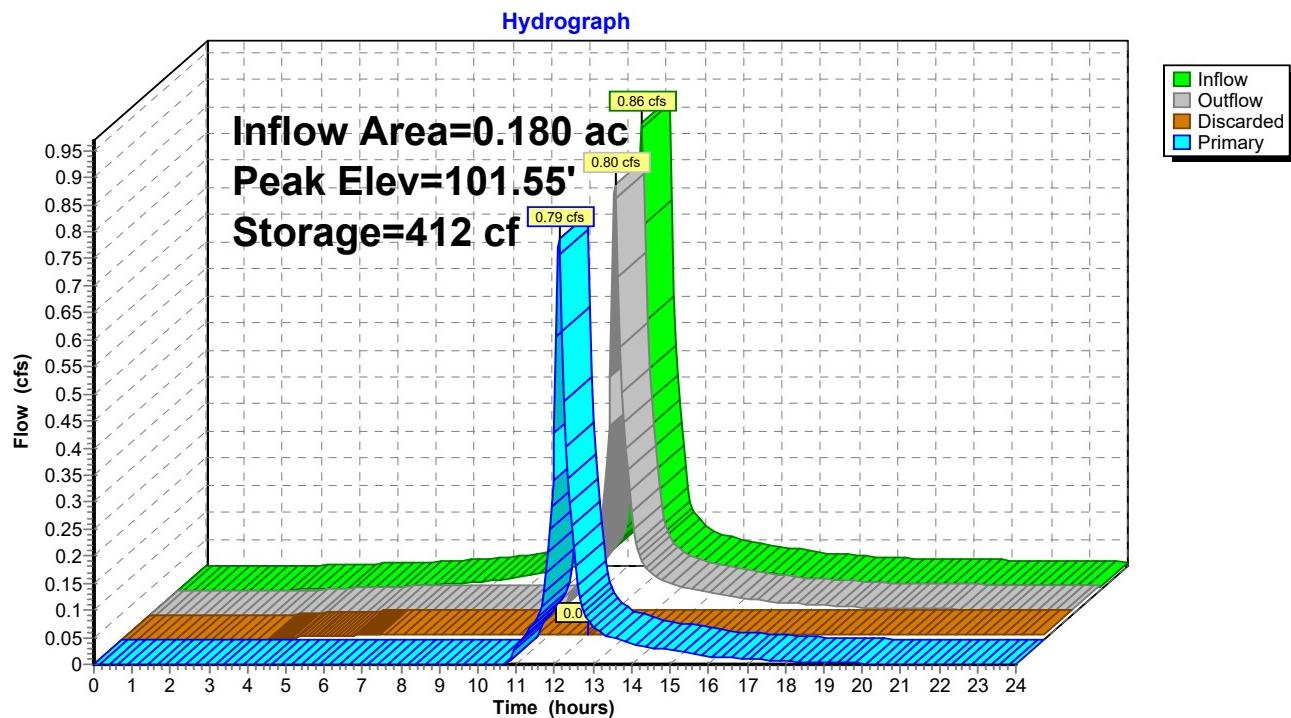
Volume	Invert	Avail.Storage	Storage Description
#1	100.67'	537 cf	Custom Stage Data (Conic) Listed below (Recalc) 1,343 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
100.67	45	0	0	45
101.16	45	22	22	57
101.17	2,622	10	32	2,634
101.67	2,622	1,311	1,343	2,724

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.67'	0.170 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 94.00'
#2	Primary	101.40'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.12 hrs HW=101.55' (Free Discharge)
 ↗1=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.77 cfs @ 12.12 hrs HW=101.55' (Free Discharge)
 ↗2=Broad-Crested Rectangular Weir(Weir Controls 0.77 cfs @ 1.03 fps)

Pond 3P: Gravel Beer Garden

Arlington SW Analysis

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Type III 24-hr 10-yr Rainfall=5.16"

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Stage-Discharge for Pond 3P: Gravel Beer Garden

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
100.67	0.00	0.00	0.00	101.19	0.01	0.01	0.00
100.68	0.00	0.00	0.00	101.20	0.01	0.01	0.00
100.69	0.00	0.00	0.00	101.21	0.01	0.01	0.00
100.70	0.00	0.00	0.00	101.22	0.01	0.01	0.00
100.71	0.00	0.00	0.00	101.23	0.01	0.01	0.00
100.72	0.00	0.00	0.00	101.24	0.01	0.01	0.00
100.73	0.00	0.00	0.00	101.25	0.01	0.01	0.00
100.74	0.00	0.00	0.00	101.26	0.01	0.01	0.00
100.75	0.00	0.00	0.00	101.27	0.01	0.01	0.00
100.76	0.00	0.00	0.00	101.28	0.01	0.01	0.00
100.77	0.00	0.00	0.00	101.29	0.01	0.01	0.00
100.78	0.00	0.00	0.00	101.30	0.01	0.01	0.00
100.79	0.00	0.00	0.00	101.31	0.01	0.01	0.00
100.80	0.00	0.00	0.00	101.32	0.01	0.01	0.00
100.81	0.00	0.00	0.00	101.33	0.01	0.01	0.00
100.82	0.00	0.00	0.00	101.34	0.01	0.01	0.00
100.83	0.00	0.00	0.00	101.35	0.01	0.01	0.00
100.84	0.00	0.00	0.00	101.36	0.01	0.01	0.00
100.85	0.00	0.00	0.00	101.37	0.01	0.01	0.00
100.86	0.00	0.00	0.00	101.38	0.01	0.01	0.00
100.87	0.00	0.00	0.00	101.39	0.01	0.01	0.00
100.88	0.00	0.00	0.00	101.40	0.01	0.01	0.00
100.89	0.00	0.00	0.00	101.41	0.02	0.01	0.01
100.90	0.00	0.00	0.00	101.42	0.05	0.01	0.04
100.91	0.00	0.00	0.00	101.43	0.08	0.01	0.07
100.92	0.00	0.00	0.00	101.44	0.12	0.01	0.11
100.93	0.00	0.00	0.00	101.45	0.16	0.01	0.15
100.94	0.00	0.00	0.00	101.46	0.21	0.01	0.20
100.95	0.00	0.00	0.00	101.47	0.26	0.01	0.25
100.96	0.00	0.00	0.00	101.48	0.32	0.01	0.30
100.97	0.00	0.00	0.00	101.49	0.37	0.01	0.36
100.98	0.00	0.00	0.00	101.50	0.44	0.01	0.43
100.99	0.00	0.00	0.00	101.51	0.50	0.01	0.49
101.00	0.00	0.00	0.00	101.52	0.57	0.01	0.56
101.01	0.00	0.00	0.00	101.53	0.64	0.01	0.63
101.02	0.00	0.00	0.00	101.54	0.72	0.01	0.70
101.03	0.00	0.00	0.00	101.55	0.79	0.01	0.78
101.04	0.00	0.00	0.00	101.56	0.87	0.01	0.86
101.05	0.00	0.00	0.00	101.57	0.95	0.01	0.94
101.06	0.00	0.00	0.00	101.58	1.04	0.01	1.03
101.07	0.00	0.00	0.00	101.59	1.13	0.01	1.11
101.08	0.00	0.00	0.00	101.60	1.21	0.01	1.20
101.09	0.00	0.00	0.00	101.61	1.31	0.01	1.30
101.10	0.00	0.00	0.00	101.62	1.40	0.01	1.39
101.11	0.00	0.00	0.00	101.63	1.50	0.01	1.49
101.12	0.00	0.00	0.00	101.64	1.60	0.01	1.58
101.13	0.00	0.00	0.00	101.65	1.70	0.01	1.69
101.14	0.00	0.00	0.00	101.66	1.80	0.01	1.79
101.15	0.00	0.00	0.00	101.67	1.91	0.01	1.89
101.16	0.00	0.00	0.00				
101.17	0.01	0.01	0.00				
101.18	0.01	0.01	0.00				

Arlington SW Analysis

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Type III 24-hr 10-yr Rainfall=5.16"

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Stage-Area-Storage for Pond 3P: Gravel Beer Garden

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
100.67	45	45	0
100.69	45	45	0
100.71	45	46	1
100.73	45	46	1
100.75	45	47	1
100.77	45	47	2
100.79	45	48	2
100.81	45	48	3
100.83	45	49	3
100.85	45	49	3
100.87	45	50	4
100.89	45	50	4
100.91	45	51	4
100.93	45	51	5
100.95	45	52	5
100.97	45	52	5
100.99	45	53	6
101.01	45	53	6
101.03	45	54	6
101.05	45	54	7
101.07	45	55	7
101.09	45	55	8
101.11	45	55	8
101.13	45	56	8
101.15	45	56	9
101.17	2,622	2,634	13
101.19	2,622	2,637	34
101.21	2,622	2,641	55
101.23	2,622	2,645	76
101.25	2,622	2,648	97
101.27	2,622	2,652	118
101.29	2,622	2,655	139
101.31	2,622	2,659	160
101.33	2,622	2,663	181
101.35	2,622	2,666	202
101.37	2,622	2,670	223
101.39	2,622	2,674	244
101.41	2,622	2,677	265
101.43	2,622	2,681	286
101.45	2,622	2,684	306
101.47	2,622	2,688	327
101.49	2,622	2,692	348
101.51	2,622	2,695	369
101.53	2,622	2,699	390
101.55	2,622	2,703	411
101.57	2,622	2,706	432
101.59	2,622	2,710	453
101.61	2,622	2,714	474
101.63	2,622	2,717	495
101.65	2,622	2,721	516
101.67	2,622	2,724	537

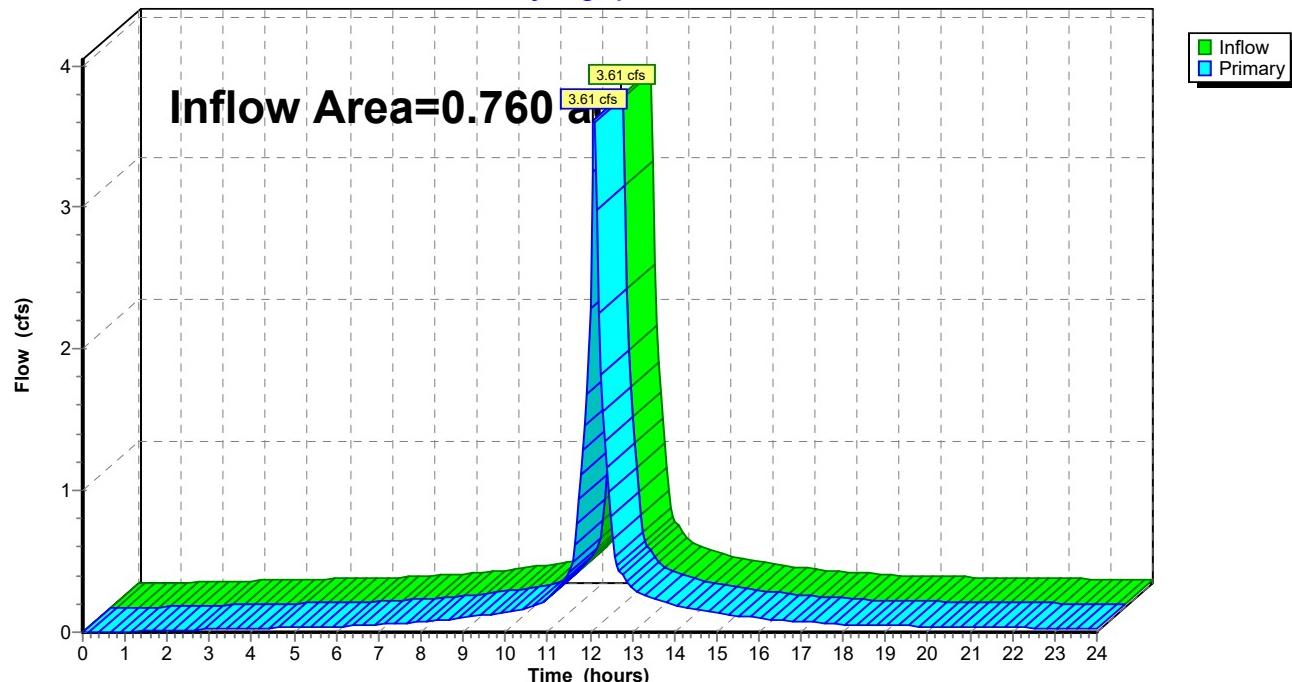
Summary for Link PR: PDA-1

Inflow Area = 0.760 ac, 90.79% Impervious, Inflow Depth > 4.48" for 10-yr event

Inflow = 3.61 cfs @ 12.09 hrs, Volume= 0.284 af

Primary = 3.61 cfs @ 12.09 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR: PDA-1**Hydrograph**

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Type III 24-hr 25-yr Rainfall=6.34"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EDA-1Runoff Area=0.760 ac 98.68% Impervious Runoff Depth>6.10"
Tc=6.0 min CN=98 Runoff=4.61 cfs 0.386 af**SubcatchmentPR1: PDA-1A**Runoff Area=0.580 ac 98.28% Impervious Runoff Depth>6.10"
Tc=6.0 min CN=98 Runoff=3.52 cfs 0.295 af**SubcatchmentPR2: PDA-1B**Runoff Area=0.180 ac 66.67% Impervious Runoff Depth>5.75"
Tc=6.0 min CN=95 Runoff=1.07 cfs 0.086 af**Pond 3P: Gravel Beer Garden**Peak Elev=101.58' Storage=438 cf Inflow=1.07 cfs 0.086 af
Discarded=0.01 cfs 0.018 af Primary=0.99 cfs 0.063 af Outflow=1.00 cfs 0.080 af**Link PR: PDA-1**Inflow=4.47 cfs 0.357 af
Primary=4.47 cfs 0.357 af

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Type III 24-hr 25-yr Rainfall=6.34"

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Summary for Subcatchment EX: EDA-1

Runoff = 4.61 cfs @ 12.09 hrs, Volume= 0.386 af, Depth> 6.10"

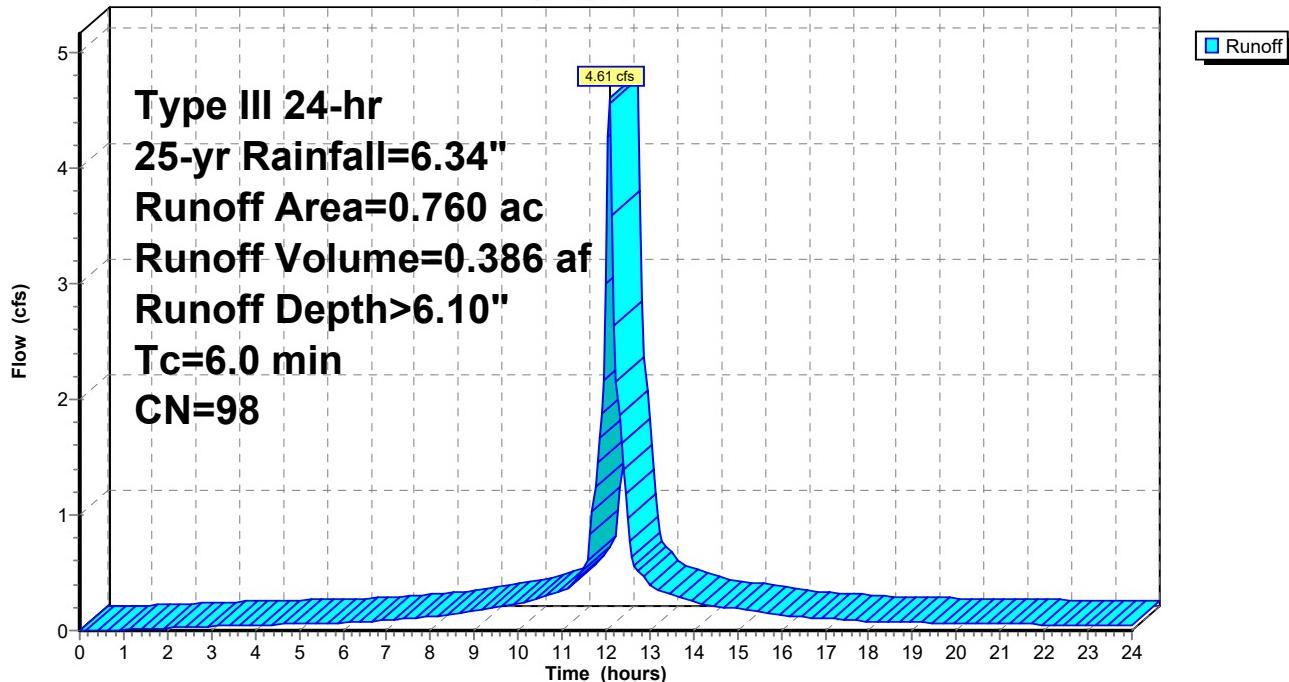
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.34"

Area (ac)	CN	Description
0.750	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.760	98	Weighted Average
0.010		1.32% Pervious Area
0.750		98.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment EX: EDA-1

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.34"

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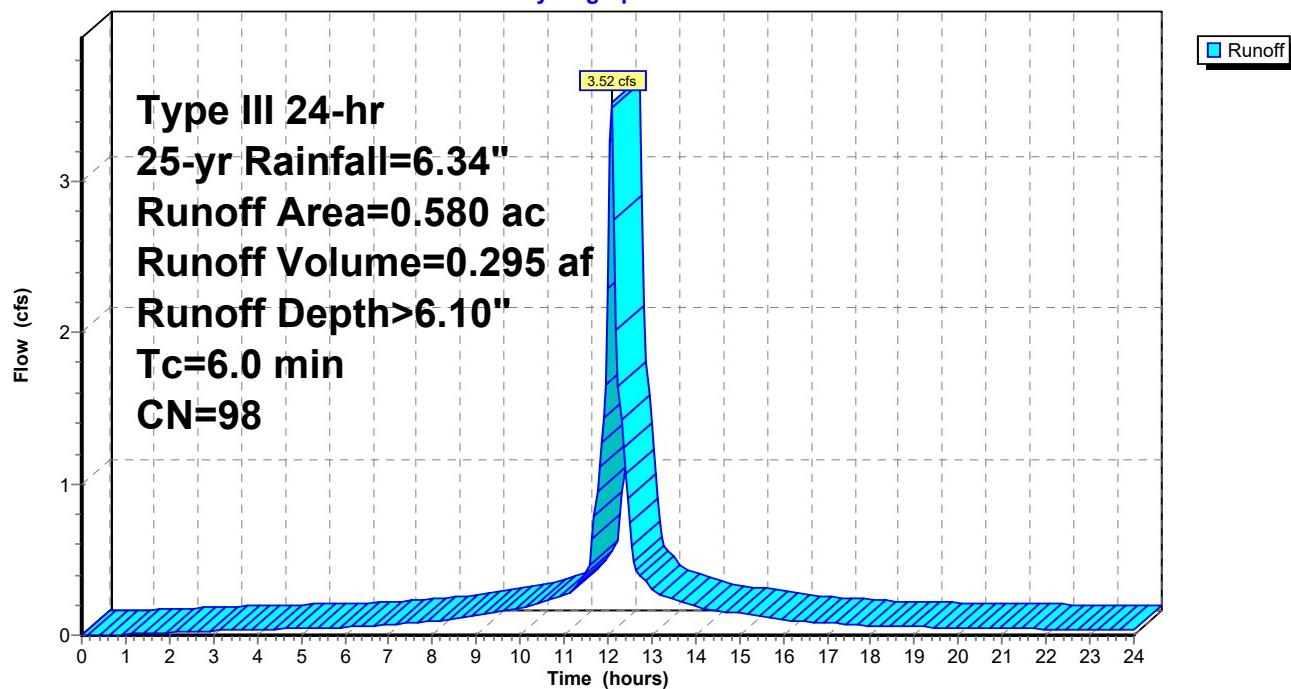
Summary for Subcatchment PR1: PDA-1A

Runoff = 3.52 cfs @ 12.09 hrs, Volume= 0.295 af, Depth> 6.10"
Routed to Link PR : PDA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.34"

Area (ac)	CN	Description
0.570	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.580	98	Weighted Average
0.010		1.72% Pervious Area
0.570		98.28% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment PR1: PDA-1A**Hydrograph**

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Type III 24-hr 25-yr Rainfall=6.34"

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Summary for Subcatchment PR2: PDA-1B

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.086 af, Depth> 5.75"
 Routed to Pond 3P : Gravel Beer Garden

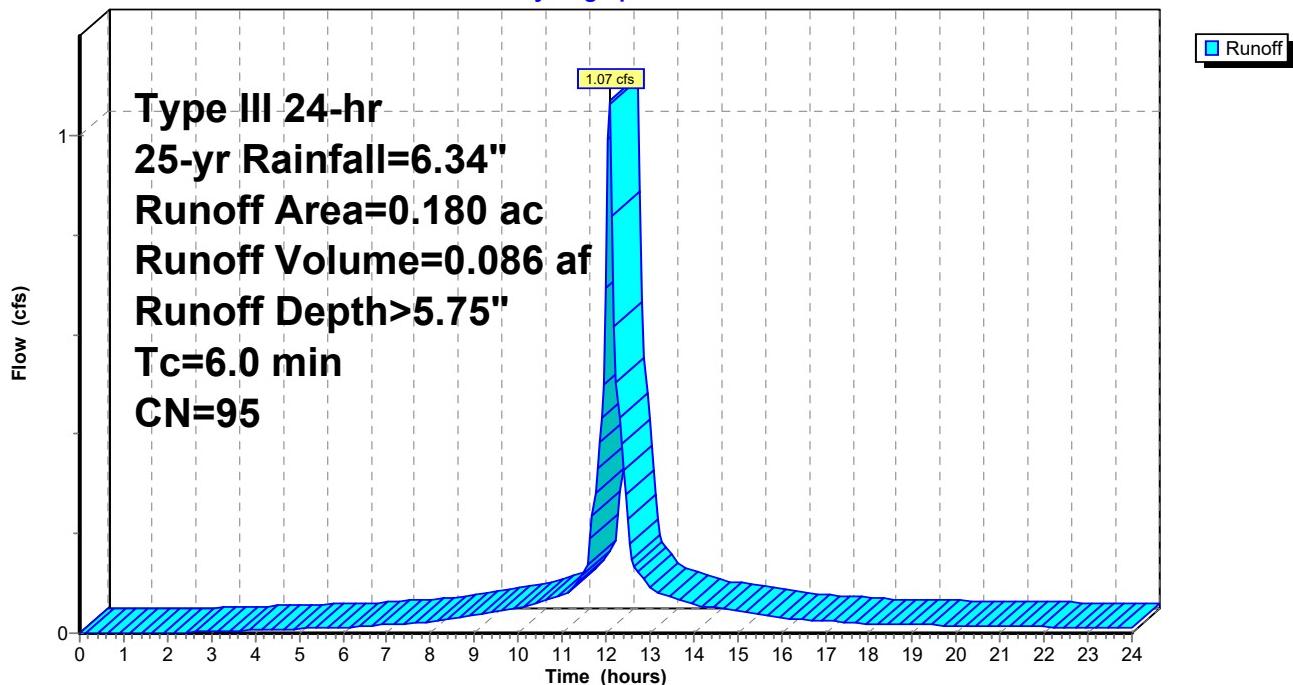
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=6.34"

Area (ac)	CN	Description
0.120	98	Roofs, HSG D
*	0.060	GRAVEL PATIO
0.180	95	Weighted Average
0.060		33.33% Pervious Area
0.120		66.67% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment PR2: PDA-1B

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.34"

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Summary for Pond 3P: Gravel Beer Garden

Inflow Area = 0.180 ac, 66.67% Impervious, Inflow Depth > 5.75" for 25-yr event
 Inflow = 1.07 cfs @ 12.09 hrs, Volume= 0.086 af
 Outflow = 1.00 cfs @ 12.12 hrs, Volume= 0.080 af, Atten= 7%, Lag= 1.9 min
 Discarded = 0.01 cfs @ 12.12 hrs, Volume= 0.018 af
 Primary = 0.99 cfs @ 12.12 hrs, Volume= 0.063 af
 Routed to Link PR : PDA-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.58' @ 12.12 hrs Surf.Area= 2,622 sf Storage= 438 cf

Plug-Flow detention time= 59.4 min calculated for 0.080 af (93% of inflow)
 Center-of-Mass det. time= 22.9 min (784.7 - 761.9)

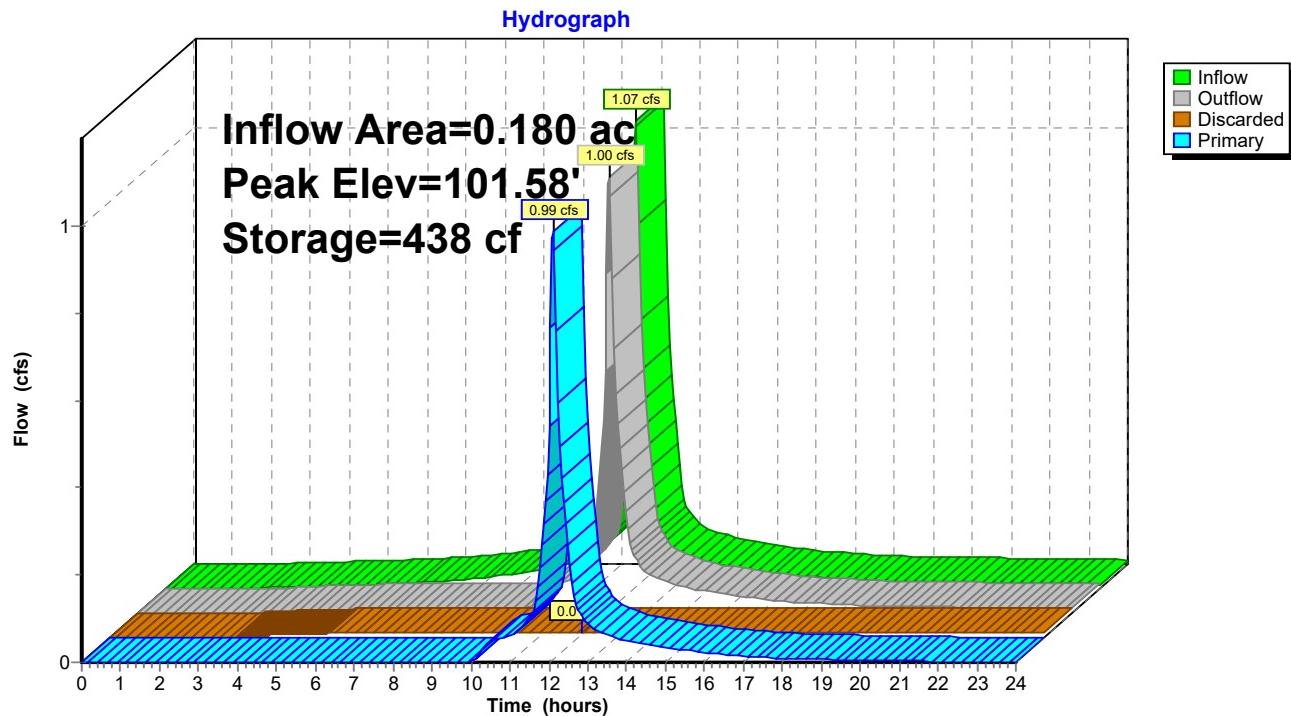
Volume	Invert	Avail.Storage	Storage Description
#1	100.67'	537 cf	Custom Stage Data (Conic) Listed below (Recalc) 1,343 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
100.67	45	0	0	45
101.16	45	22	22	57
101.17	2,622	10	32	2,634
101.67	2,622	1,311	1,343	2,724

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.67'	0.170 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 94.00'
#2	Primary	101.40'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.12 hrs HW=101.57' (Free Discharge)
 ↗1=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.96 cfs @ 12.12 hrs HW=101.57' (Free Discharge)
 ↗2=Broad-Crested Rectangular Weir(Weir Controls 0.96 cfs @ 1.12 fps)

Pond 3P: Gravel Beer Garden

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Type III 24-hr 25-yr Rainfall=6.34"

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Stage-Discharge for Pond 3P: Gravel Beer Garden

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
100.67	0.00	0.00	0.00	101.19	0.01	0.01	0.00
100.68	0.00	0.00	0.00	101.20	0.01	0.01	0.00
100.69	0.00	0.00	0.00	101.21	0.01	0.01	0.00
100.70	0.00	0.00	0.00	101.22	0.01	0.01	0.00
100.71	0.00	0.00	0.00	101.23	0.01	0.01	0.00
100.72	0.00	0.00	0.00	101.24	0.01	0.01	0.00
100.73	0.00	0.00	0.00	101.25	0.01	0.01	0.00
100.74	0.00	0.00	0.00	101.26	0.01	0.01	0.00
100.75	0.00	0.00	0.00	101.27	0.01	0.01	0.00
100.76	0.00	0.00	0.00	101.28	0.01	0.01	0.00
100.77	0.00	0.00	0.00	101.29	0.01	0.01	0.00
100.78	0.00	0.00	0.00	101.30	0.01	0.01	0.00
100.79	0.00	0.00	0.00	101.31	0.01	0.01	0.00
100.80	0.00	0.00	0.00	101.32	0.01	0.01	0.00
100.81	0.00	0.00	0.00	101.33	0.01	0.01	0.00
100.82	0.00	0.00	0.00	101.34	0.01	0.01	0.00
100.83	0.00	0.00	0.00	101.35	0.01	0.01	0.00
100.84	0.00	0.00	0.00	101.36	0.01	0.01	0.00
100.85	0.00	0.00	0.00	101.37	0.01	0.01	0.00
100.86	0.00	0.00	0.00	101.38	0.01	0.01	0.00
100.87	0.00	0.00	0.00	101.39	0.01	0.01	0.00
100.88	0.00	0.00	0.00	101.40	0.01	0.01	0.00
100.89	0.00	0.00	0.00	101.41	0.02	0.01	0.01
100.90	0.00	0.00	0.00	101.42	0.05	0.01	0.04
100.91	0.00	0.00	0.00	101.43	0.08	0.01	0.07
100.92	0.00	0.00	0.00	101.44	0.12	0.01	0.11
100.93	0.00	0.00	0.00	101.45	0.16	0.01	0.15
100.94	0.00	0.00	0.00	101.46	0.21	0.01	0.20
100.95	0.00	0.00	0.00	101.47	0.26	0.01	0.25
100.96	0.00	0.00	0.00	101.48	0.32	0.01	0.30
100.97	0.00	0.00	0.00	101.49	0.37	0.01	0.36
100.98	0.00	0.00	0.00	101.50	0.44	0.01	0.43
100.99	0.00	0.00	0.00	101.51	0.50	0.01	0.49
101.00	0.00	0.00	0.00	101.52	0.57	0.01	0.56
101.01	0.00	0.00	0.00	101.53	0.64	0.01	0.63
101.02	0.00	0.00	0.00	101.54	0.72	0.01	0.70
101.03	0.00	0.00	0.00	101.55	0.79	0.01	0.78
101.04	0.00	0.00	0.00	101.56	0.87	0.01	0.86
101.05	0.00	0.00	0.00	101.57	0.95	0.01	0.94
101.06	0.00	0.00	0.00	101.58	1.04	0.01	1.03
101.07	0.00	0.00	0.00	101.59	1.13	0.01	1.11
101.08	0.00	0.00	0.00	101.60	1.21	0.01	1.20
101.09	0.00	0.00	0.00	101.61	1.31	0.01	1.30
101.10	0.00	0.00	0.00	101.62	1.40	0.01	1.39
101.11	0.00	0.00	0.00	101.63	1.50	0.01	1.49
101.12	0.00	0.00	0.00	101.64	1.60	0.01	1.58
101.13	0.00	0.00	0.00	101.65	1.70	0.01	1.69
101.14	0.00	0.00	0.00	101.66	1.80	0.01	1.79
101.15	0.00	0.00	0.00	101.67	1.91	0.01	1.89
101.16	0.00	0.00	0.00				
101.17	0.01	0.01	0.00				
101.18	0.01	0.01	0.00				

Arlington SW Analysis

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Type III 24-hr 25-yr Rainfall=6.34"

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Stage-Area-Storage for Pond 3P: Gravel Beer Garden

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
100.67	45	45	0
100.69	45	45	0
100.71	45	46	1
100.73	45	46	1
100.75	45	47	1
100.77	45	47	2
100.79	45	48	2
100.81	45	48	3
100.83	45	49	3
100.85	45	49	3
100.87	45	50	4
100.89	45	50	4
100.91	45	51	4
100.93	45	51	5
100.95	45	52	5
100.97	45	52	5
100.99	45	53	6
101.01	45	53	6
101.03	45	54	6
101.05	45	54	7
101.07	45	55	7
101.09	45	55	8
101.11	45	55	8
101.13	45	56	8
101.15	45	56	9
101.17	2,622	2,634	13
101.19	2,622	2,637	34
101.21	2,622	2,641	55
101.23	2,622	2,645	76
101.25	2,622	2,648	97
101.27	2,622	2,652	118
101.29	2,622	2,655	139
101.31	2,622	2,659	160
101.33	2,622	2,663	181
101.35	2,622	2,666	202
101.37	2,622	2,670	223
101.39	2,622	2,674	244
101.41	2,622	2,677	265
101.43	2,622	2,681	286
101.45	2,622	2,684	306
101.47	2,622	2,688	327
101.49	2,622	2,692	348
101.51	2,622	2,695	369
101.53	2,622	2,699	390
101.55	2,622	2,703	411
101.57	2,622	2,706	432
101.59	2,622	2,710	453
101.61	2,622	2,714	474
101.63	2,622	2,717	495
101.65	2,622	2,721	516
101.67	2,622	2,724	537

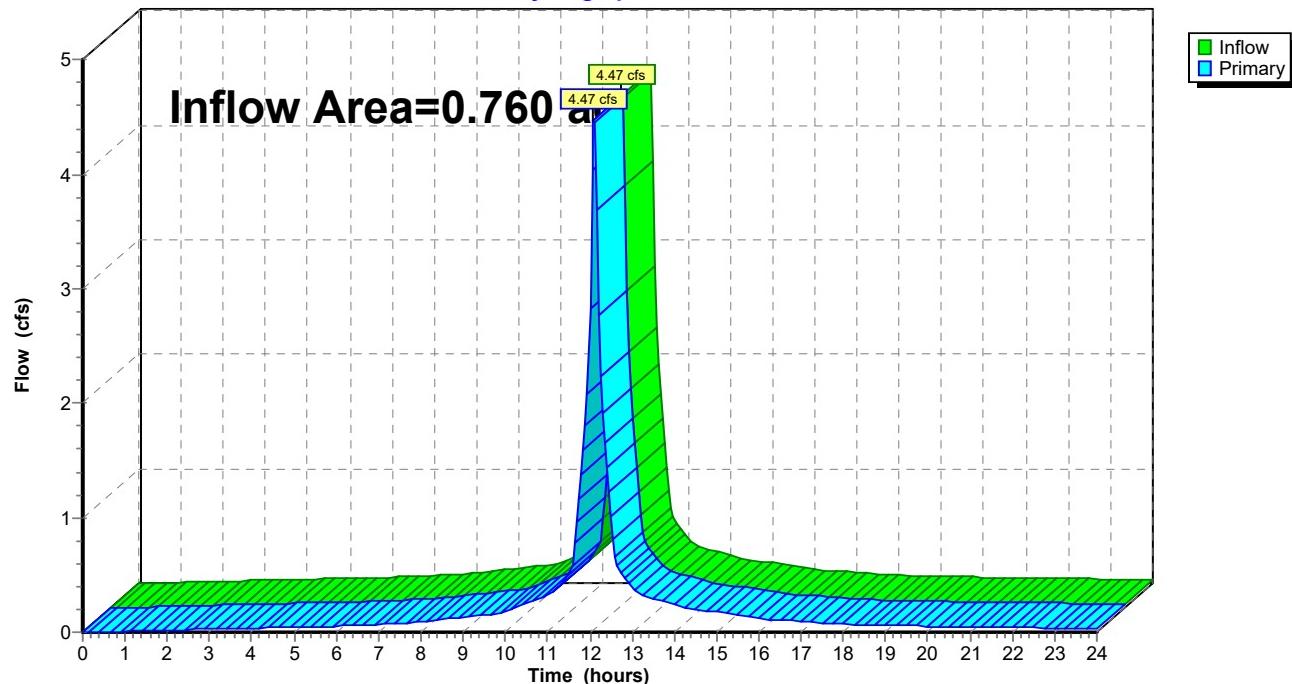
Summary for Link PR: PDA-1

Inflow Area = 0.760 ac, 90.79% Impervious, Inflow Depth > 5.64" for 25-yr event

Inflow = 4.47 cfs @ 12.09 hrs, Volume= 0.357 af

Primary = 4.47 cfs @ 12.09 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR: PDA-1**Hydrograph**

Arlington SW Analysis

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Type III 24-hr 50-yr Rainfall=7.21"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EDA-1Runoff Area=0.760 ac 98.68% Impervious Runoff Depth>6.97"
Tc=6.0 min CN=98 Runoff=5.25 cfs 0.441 af**SubcatchmentPR1: PDA-1A**Runoff Area=0.580 ac 98.28% Impervious Runoff Depth>6.97"
Tc=6.0 min CN=98 Runoff=4.01 cfs 0.337 af**SubcatchmentPR2: PDA-1B**Runoff Area=0.180 ac 66.67% Impervious Runoff Depth>6.61"
Tc=6.0 min CN=95 Runoff=1.23 cfs 0.099 af**Pond 3P: Gravel Beer Garden**Peak Elev=101.59' Storage=456 cf Inflow=1.23 cfs 0.099 af
Discarded=0.01 cfs 0.018 af Primary=1.14 cfs 0.075 af Outflow=1.15 cfs 0.093 af**Link PR: PDA-1**Inflow=5.10 cfs 0.412 af
Primary=5.10 cfs 0.412 af

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Type III 24-hr 50-yr Rainfall=7.21"

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Summary for Subcatchment EX: EDA-1

Runoff = 5.25 cfs @ 12.09 hrs, Volume= 0.441 af, Depth> 6.97"

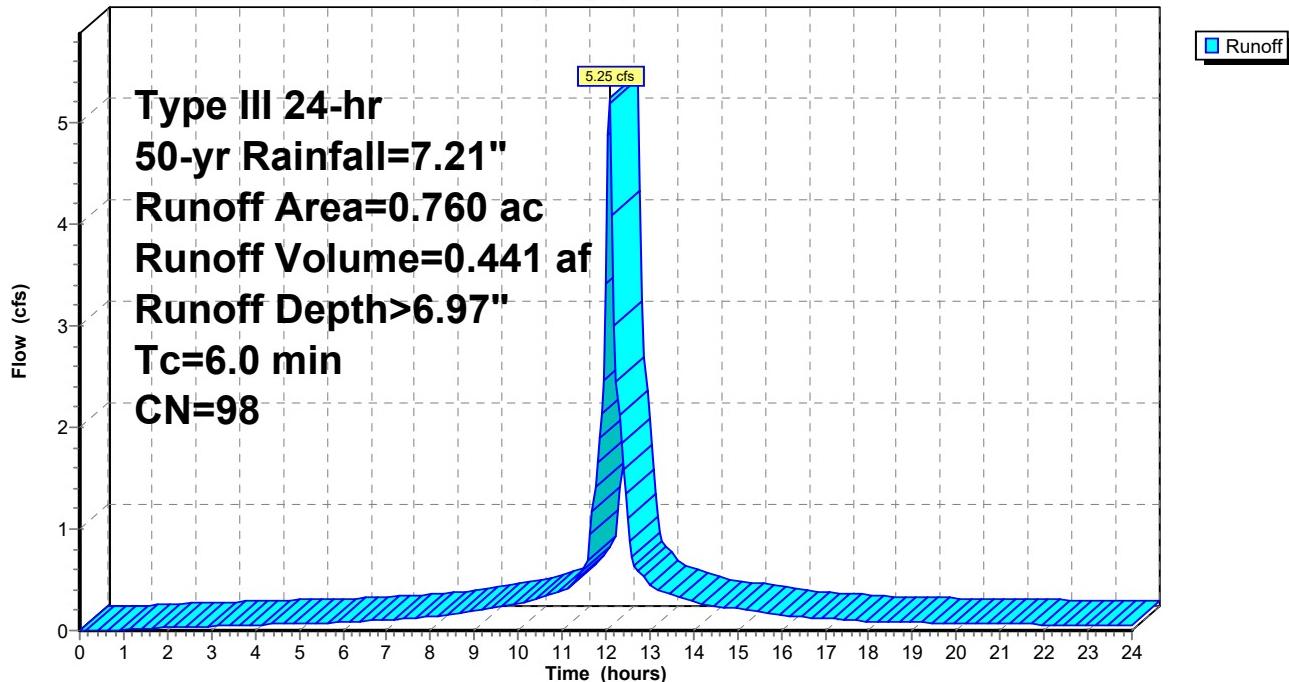
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.21"

Area (ac)	CN	Description
0.750	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.760	98	Weighted Average
0.010		1.32% Pervious Area
0.750		98.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment EX: EDA-1

Hydrograph



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Type III 24-hr 50-yr Rainfall=7.21"

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Summary for Subcatchment PR1: PDA-1A

Runoff = 4.01 cfs @ 12.09 hrs, Volume= 0.337 af, Depth> 6.97"
Routed to Link PR : PDA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.21"

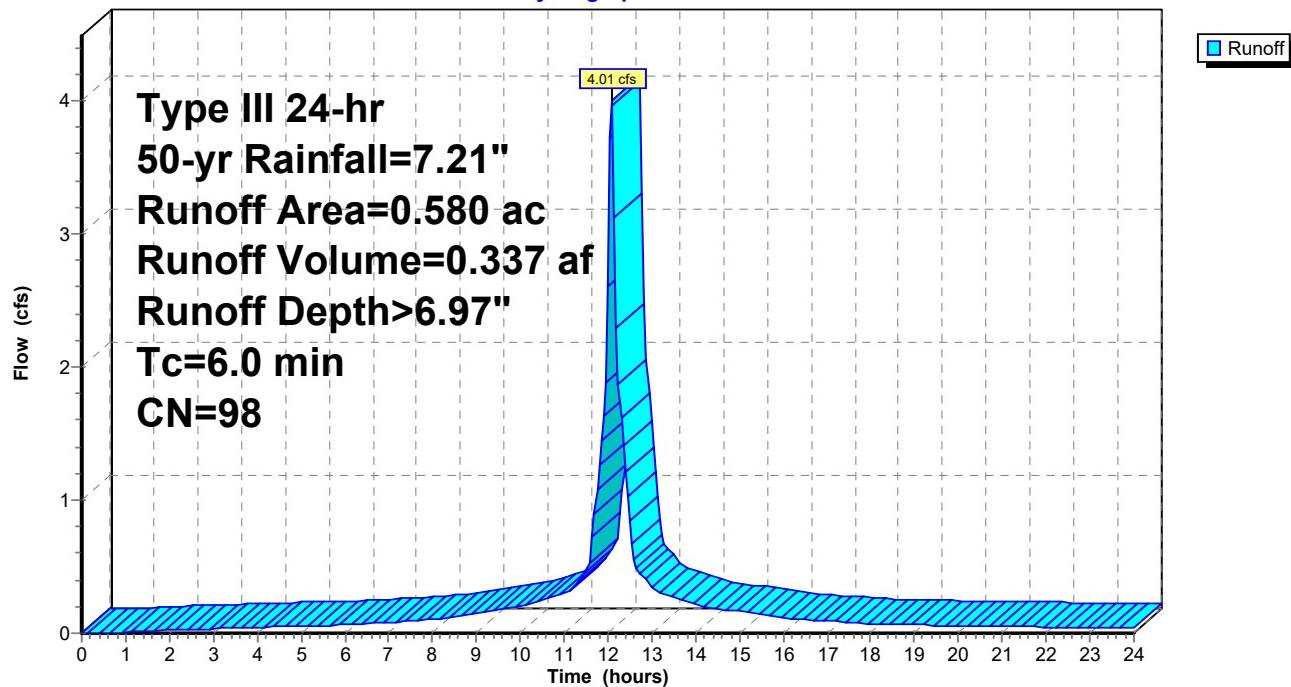
Area (ac) CN Description

0.570	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.580	98	Weighted Average
0.010		1.72% Pervious Area
0.570		98.28% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry, Tc

Subcatchment PR1: PDA-1A

Hydrograph



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Type III 24-hr 50-yr Rainfall=7.21"

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Summary for Subcatchment PR2: PDA-1B

Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 6.61"
Routed to Pond 3P : Gravel Beer Garden

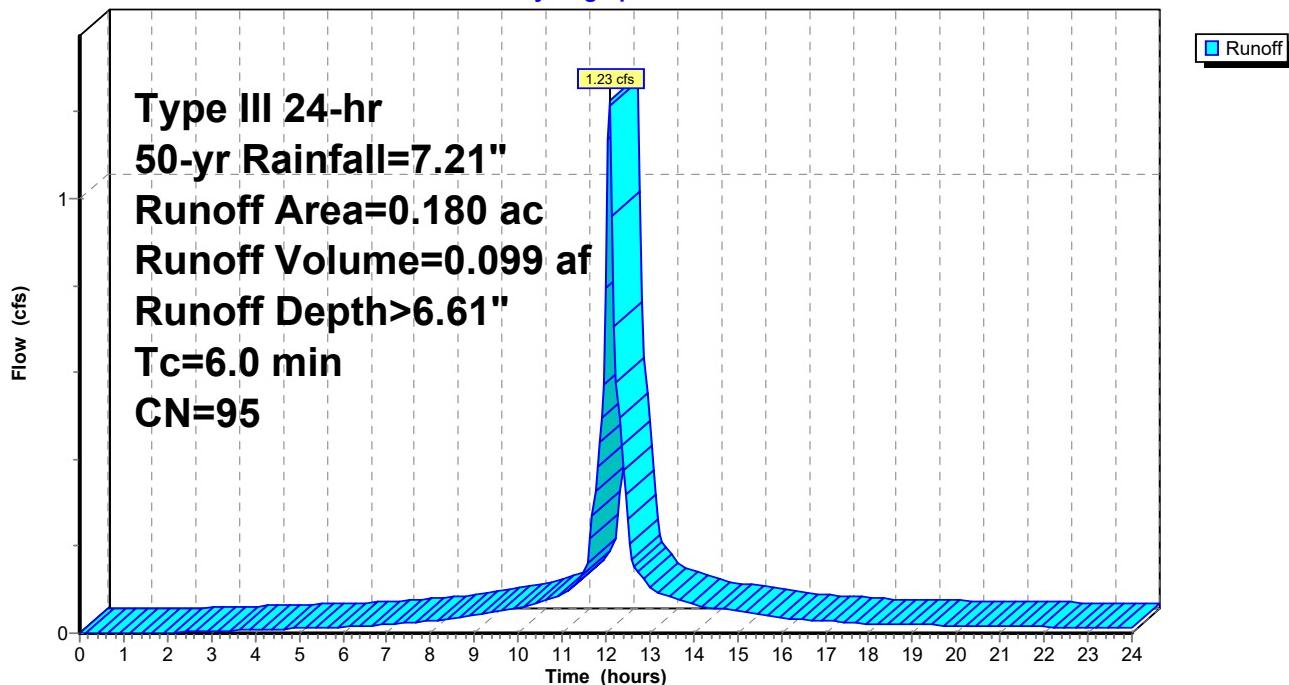
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.21"

Area (ac)	CN	Description
0.120	98	Roofs, HSG D
*	0.060	GRAVEL PATIO
0.180	95	Weighted Average
0.060		33.33% Pervious Area
0.120		66.67% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment PR2: PDA-1B

Hydrograph



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Type III 24-hr 50-yr Rainfall=7.21"

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Summary for Pond 3P: Gravel Beer Garden

Inflow Area = 0.180 ac, 66.67% Impervious, Inflow Depth > 6.61" for 50-yr event
 Inflow = 1.23 cfs @ 12.09 hrs, Volume= 0.099 af
 Outflow = 1.15 cfs @ 12.12 hrs, Volume= 0.093 af, Atten= 6%, Lag= 1.9 min
 Discarded = 0.01 cfs @ 12.12 hrs, Volume= 0.018 af
 Primary = 1.14 cfs @ 12.12 hrs, Volume= 0.075 af
 Routed to Link PR : PDA-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.59' @ 12.12 hrs Surf.Area= 2,622 sf Storage= 456 cf

Plug-Flow detention time= 54.4 min calculated for 0.093 af (94% of inflow)
 Center-of-Mass det. time= 21.9 min (780.8 - 758.9)

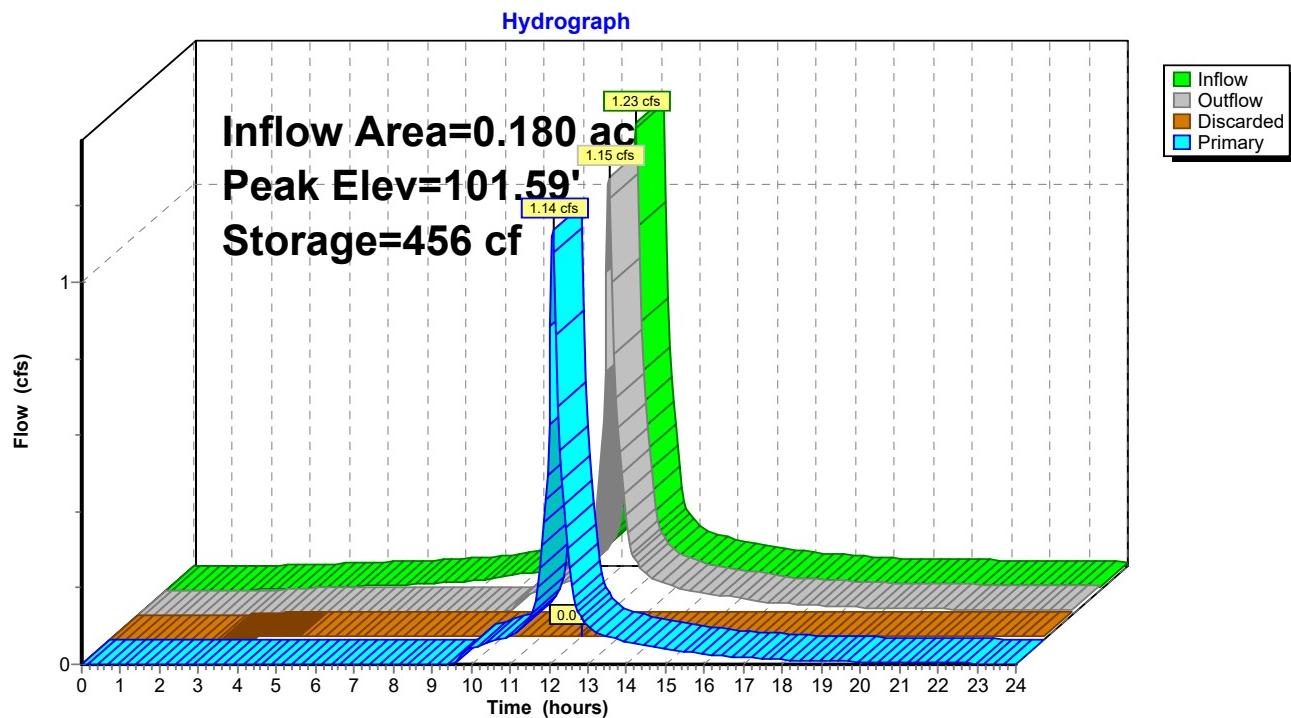
Volume	Invert	Avail.Storage	Storage Description
#1	100.67'	537 cf	Custom Stage Data (Conic) Listed below (Recalc) 1,343 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
100.67	45	0	0	45
101.16	45	22	22	57
101.17	2,622	10	32	2,634
101.67	2,622	1,311	1,343	2,724

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.67'	0.170 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 94.00'
#2	Primary	101.40'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.12 hrs HW=101.59' (Free Discharge)
 ↗1=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=1.11 cfs @ 12.12 hrs HW=101.59' (Free Discharge)
 ↗2=Broad-Crested Rectangular Weir(Weir Controls 1.11 cfs @ 1.17 fps)

Pond 3P: Gravel Beer Garden

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Type III 24-hr 50-yr Rainfall=7.21"

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Stage-Discharge for Pond 3P: Gravel Beer Garden

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
100.67	0.00	0.00	0.00	101.19	0.01	0.01	0.00
100.68	0.00	0.00	0.00	101.20	0.01	0.01	0.00
100.69	0.00	0.00	0.00	101.21	0.01	0.01	0.00
100.70	0.00	0.00	0.00	101.22	0.01	0.01	0.00
100.71	0.00	0.00	0.00	101.23	0.01	0.01	0.00
100.72	0.00	0.00	0.00	101.24	0.01	0.01	0.00
100.73	0.00	0.00	0.00	101.25	0.01	0.01	0.00
100.74	0.00	0.00	0.00	101.26	0.01	0.01	0.00
100.75	0.00	0.00	0.00	101.27	0.01	0.01	0.00
100.76	0.00	0.00	0.00	101.28	0.01	0.01	0.00
100.77	0.00	0.00	0.00	101.29	0.01	0.01	0.00
100.78	0.00	0.00	0.00	101.30	0.01	0.01	0.00
100.79	0.00	0.00	0.00	101.31	0.01	0.01	0.00
100.80	0.00	0.00	0.00	101.32	0.01	0.01	0.00
100.81	0.00	0.00	0.00	101.33	0.01	0.01	0.00
100.82	0.00	0.00	0.00	101.34	0.01	0.01	0.00
100.83	0.00	0.00	0.00	101.35	0.01	0.01	0.00
100.84	0.00	0.00	0.00	101.36	0.01	0.01	0.00
100.85	0.00	0.00	0.00	101.37	0.01	0.01	0.00
100.86	0.00	0.00	0.00	101.38	0.01	0.01	0.00
100.87	0.00	0.00	0.00	101.39	0.01	0.01	0.00
100.88	0.00	0.00	0.00	101.40	0.01	0.01	0.00
100.89	0.00	0.00	0.00	101.41	0.02	0.01	0.01
100.90	0.00	0.00	0.00	101.42	0.05	0.01	0.04
100.91	0.00	0.00	0.00	101.43	0.08	0.01	0.07
100.92	0.00	0.00	0.00	101.44	0.12	0.01	0.11
100.93	0.00	0.00	0.00	101.45	0.16	0.01	0.15
100.94	0.00	0.00	0.00	101.46	0.21	0.01	0.20
100.95	0.00	0.00	0.00	101.47	0.26	0.01	0.25
100.96	0.00	0.00	0.00	101.48	0.32	0.01	0.30
100.97	0.00	0.00	0.00	101.49	0.37	0.01	0.36
100.98	0.00	0.00	0.00	101.50	0.44	0.01	0.43
100.99	0.00	0.00	0.00	101.51	0.50	0.01	0.49
101.00	0.00	0.00	0.00	101.52	0.57	0.01	0.56
101.01	0.00	0.00	0.00	101.53	0.64	0.01	0.63
101.02	0.00	0.00	0.00	101.54	0.72	0.01	0.70
101.03	0.00	0.00	0.00	101.55	0.79	0.01	0.78
101.04	0.00	0.00	0.00	101.56	0.87	0.01	0.86
101.05	0.00	0.00	0.00	101.57	0.95	0.01	0.94
101.06	0.00	0.00	0.00	101.58	1.04	0.01	1.03
101.07	0.00	0.00	0.00	101.59	1.13	0.01	1.11
101.08	0.00	0.00	0.00	101.60	1.21	0.01	1.20
101.09	0.00	0.00	0.00	101.61	1.31	0.01	1.30
101.10	0.00	0.00	0.00	101.62	1.40	0.01	1.39
101.11	0.00	0.00	0.00	101.63	1.50	0.01	1.49
101.12	0.00	0.00	0.00	101.64	1.60	0.01	1.58
101.13	0.00	0.00	0.00	101.65	1.70	0.01	1.69
101.14	0.00	0.00	0.00	101.66	1.80	0.01	1.79
101.15	0.00	0.00	0.00	101.67	1.91	0.01	1.89
101.16	0.00	0.00	0.00				
101.17	0.01	0.01	0.00				
101.18	0.01	0.01	0.00				

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Type III 24-hr 50-yr Rainfall=7.21"

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Stage-Area-Storage for Pond 3P: Gravel Beer Garden

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
100.67	45	45	0
100.69	45	45	0
100.71	45	46	1
100.73	45	46	1
100.75	45	47	1
100.77	45	47	2
100.79	45	48	2
100.81	45	48	3
100.83	45	49	3
100.85	45	49	3
100.87	45	50	4
100.89	45	50	4
100.91	45	51	4
100.93	45	51	5
100.95	45	52	5
100.97	45	52	5
100.99	45	53	6
101.01	45	53	6
101.03	45	54	6
101.05	45	54	7
101.07	45	55	7
101.09	45	55	8
101.11	45	55	8
101.13	45	56	8
101.15	45	56	9
101.17	2,622	2,634	13
101.19	2,622	2,637	34
101.21	2,622	2,641	55
101.23	2,622	2,645	76
101.25	2,622	2,648	97
101.27	2,622	2,652	118
101.29	2,622	2,655	139
101.31	2,622	2,659	160
101.33	2,622	2,663	181
101.35	2,622	2,666	202
101.37	2,622	2,670	223
101.39	2,622	2,674	244
101.41	2,622	2,677	265
101.43	2,622	2,681	286
101.45	2,622	2,684	306
101.47	2,622	2,688	327
101.49	2,622	2,692	348
101.51	2,622	2,695	369
101.53	2,622	2,699	390
101.55	2,622	2,703	411
101.57	2,622	2,706	432
101.59	2,622	2,710	453
101.61	2,622	2,714	474
101.63	2,622	2,717	495
101.65	2,622	2,721	516
101.67	2,622	2,724	537

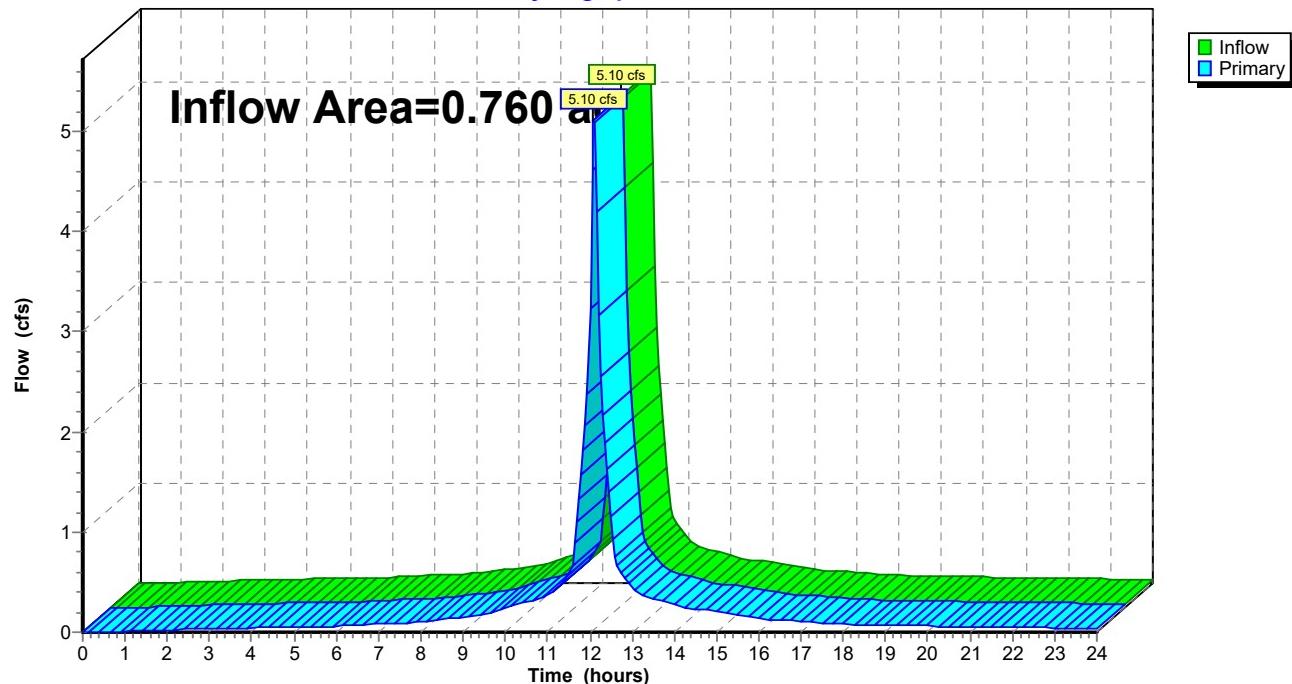
Summary for Link PR: PDA-1

Inflow Area = 0.760 ac, 90.79% Impervious, Inflow Depth > 6.50" for 50-yr event

Inflow = 5.10 cfs @ 12.09 hrs, Volume= 0.412 af

Primary = 5.10 cfs @ 12.09 hrs, Volume= 0.412 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR: PDA-1**Hydrograph**

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Type III 24-hr 100-yr Rainfall=8.16"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EDA-1Runoff Area=0.760 ac 98.68% Impervious Runoff Depth>7.92"
Tc=6.0 min CN=98 Runoff=5.95 cfs 0.501 af**SubcatchmentPR1: PDA-1A**Runoff Area=0.580 ac 98.28% Impervious Runoff Depth>7.92"
Tc=6.0 min CN=98 Runoff=4.54 cfs 0.383 af**SubcatchmentPR2: PDA-1B**Runoff Area=0.180 ac 66.67% Impervious Runoff Depth>7.56"
Tc=6.0 min CN=95 Runoff=1.39 cfs 0.113 af**Pond 3P: Gravel Beer Garden**Peak Elev=101.61' Storage=475 cf Inflow=1.39 cfs 0.113 af
Discarded=0.01 cfs 0.019 af Primary=1.30 cfs 0.089 af Outflow=1.31 cfs 0.107 af**Link PR: PDA-1**Inflow=5.79 cfs 0.471 af
Primary=5.79 cfs 0.471 af

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Type III 24-hr 100-yr Rainfall=8.16"

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Summary for Subcatchment EX: EDA-1

Runoff = 5.95 cfs @ 12.09 hrs, Volume= 0.501 af, Depth> 7.92"

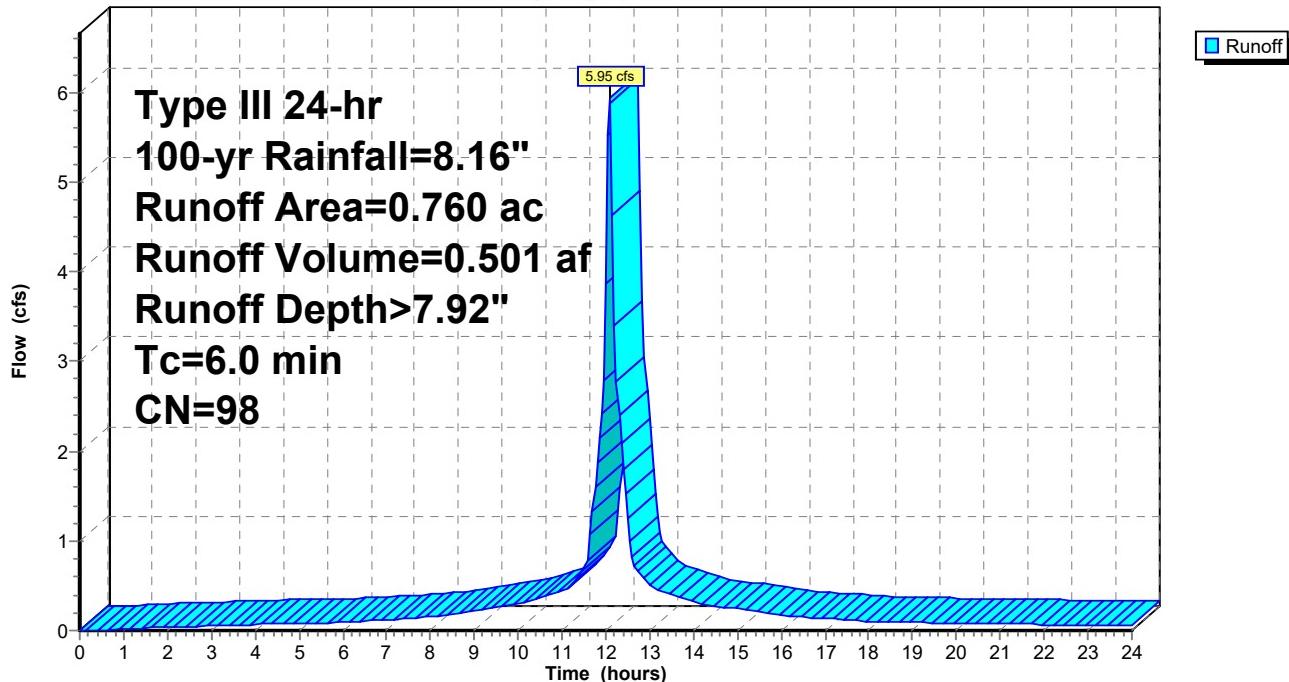
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.16"

Area (ac)	CN	Description
0.750	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.760	98	Weighted Average
0.010		1.32% Pervious Area
0.750		98.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc

Subcatchment EX: EDA-1

Hydrograph



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Type III 24-hr 100-yr Rainfall=8.16"

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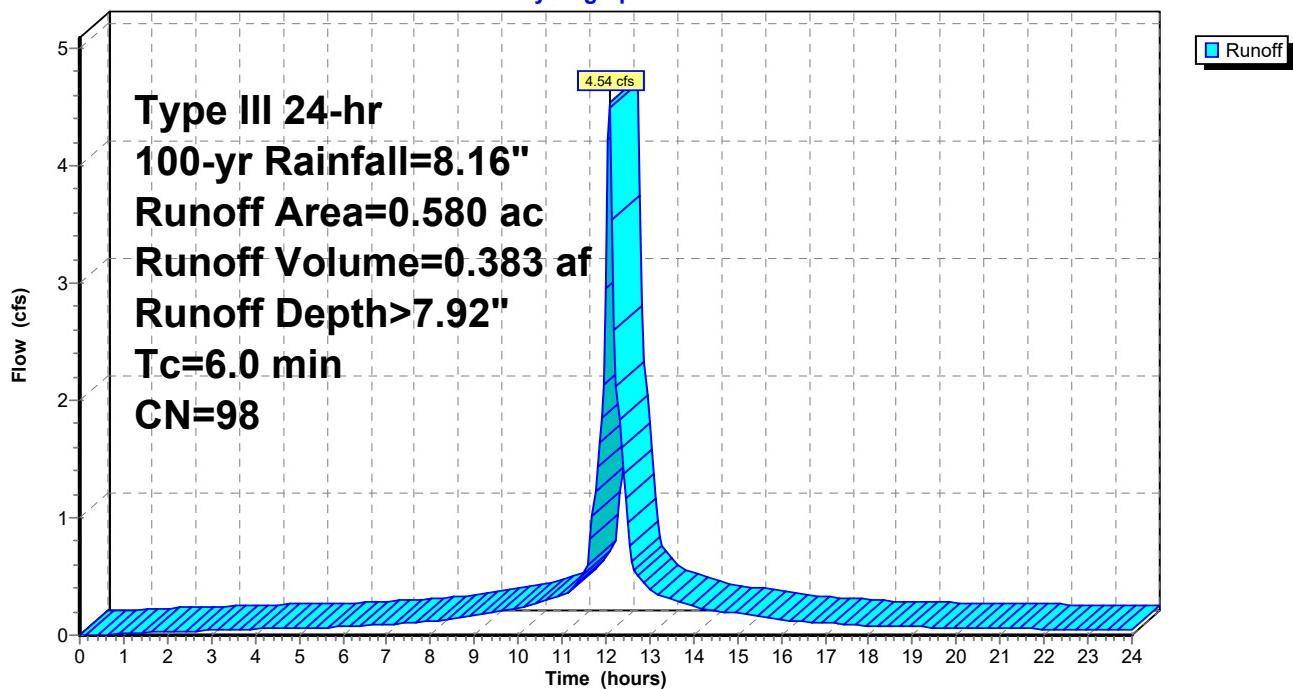
Summary for Subcatchment PR1: PDA-1A

Runoff = 4.54 cfs @ 12.09 hrs, Volume= 0.383 af, Depth> 7.92"
Routed to Link PR : PDA-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.16"

Area (ac)	CN	Description
0.570	98	Paved parking, HSG D
0.010	89	<50% Grass cover, Poor, HSG D
0.580	98	Weighted Average
0.010		1.72% Pervious Area
0.570		98.28% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry, Tc

Subcatchment PR1: PDA-1A**Hydrograph**

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Type III 24-hr 100-yr Rainfall=8.16"

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Summary for Subcatchment PR2: PDA-1B

Runoff = 1.39 cfs @ 12.09 hrs, Volume= 0.113 af, Depth> 7.56"
 Routed to Pond 3P : Gravel Beer Garden

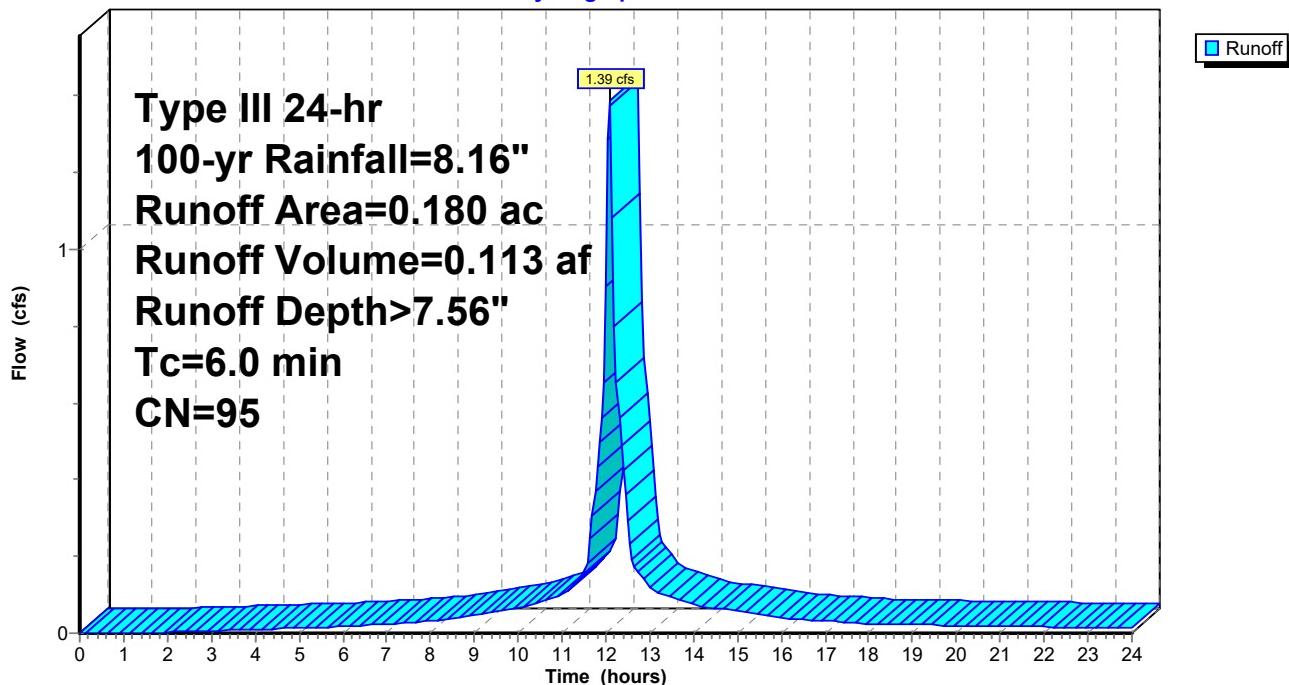
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.16"

Area (ac)	CN	Description
0.120	98	Roofs, HSG D
*	0.060	GRAVEL PATIO
0.180	95	Weighted Average
0.060		33.33% Pervious Area
0.120		66.67% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0	Direct Entry, Tc				

Subcatchment PR2: PDA-1B

Hydrograph



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Type III 24-hr 100-yr Rainfall=8.16"

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Summary for Pond 3P: Gravel Beer Garden

Inflow Area = 0.180 ac, 66.67% Impervious, Inflow Depth > 7.56" for 100-yr event
 Inflow = 1.39 cfs @ 12.09 hrs, Volume= 0.113 af
 Outflow = 1.31 cfs @ 12.12 hrs, Volume= 0.107 af, Atten= 6%, Lag= 1.8 min
 Discarded = 0.01 cfs @ 12.12 hrs, Volume= 0.019 af
 Primary = 1.30 cfs @ 12.12 hrs, Volume= 0.089 af
 Routed to Link PR : PDA-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.61' @ 12.12 hrs Surf.Area= 2,622 sf Storage= 475 cf

Plug-Flow detention time= 50.4 min calculated for 0.107 af (95% of inflow)
 Center-of-Mass det. time= 21.2 min (777.4 - 756.2)

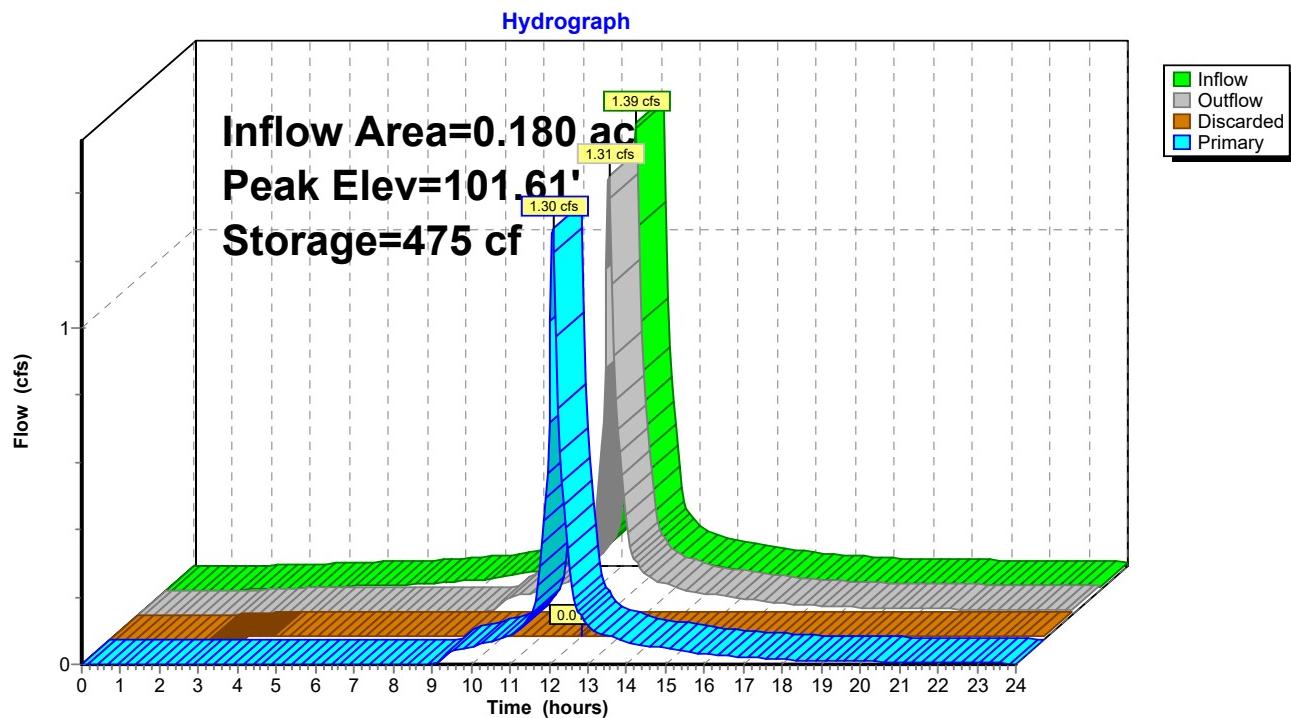
Volume	Invert	Avail.Storage	Storage Description
#1	100.67'	537 cf	Custom Stage Data (Conic) Listed below (Recalc) 1,343 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
100.67	45	0	0	45
101.16	45	22	22	57
101.17	2,622	10	32	2,634
101.67	2,622	1,311	1,343	2,724

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.67'	0.170 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 94.00'
#2	Primary	101.40'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.01 cfs @ 12.12 hrs HW=101.61' (Free Discharge)
 ↗1=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=1.26 cfs @ 12.12 hrs HW=101.61' (Free Discharge)
 ↗2=Broad-Crested Rectangular Weir(Weir Controls 1.26 cfs @ 1.22 fps)

Pond 3P: Gravel Beer Garden

Arlington SW Analysis

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Type III 24-hr 100-yr Rainfall=8.16"

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Stage-Discharge for Pond 3P: Gravel Beer Garden

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
100.67	0.00	0.00	0.00	101.19	0.01	0.01	0.00
100.68	0.00	0.00	0.00	101.20	0.01	0.01	0.00
100.69	0.00	0.00	0.00	101.21	0.01	0.01	0.00
100.70	0.00	0.00	0.00	101.22	0.01	0.01	0.00
100.71	0.00	0.00	0.00	101.23	0.01	0.01	0.00
100.72	0.00	0.00	0.00	101.24	0.01	0.01	0.00
100.73	0.00	0.00	0.00	101.25	0.01	0.01	0.00
100.74	0.00	0.00	0.00	101.26	0.01	0.01	0.00
100.75	0.00	0.00	0.00	101.27	0.01	0.01	0.00
100.76	0.00	0.00	0.00	101.28	0.01	0.01	0.00
100.77	0.00	0.00	0.00	101.29	0.01	0.01	0.00
100.78	0.00	0.00	0.00	101.30	0.01	0.01	0.00
100.79	0.00	0.00	0.00	101.31	0.01	0.01	0.00
100.80	0.00	0.00	0.00	101.32	0.01	0.01	0.00
100.81	0.00	0.00	0.00	101.33	0.01	0.01	0.00
100.82	0.00	0.00	0.00	101.34	0.01	0.01	0.00
100.83	0.00	0.00	0.00	101.35	0.01	0.01	0.00
100.84	0.00	0.00	0.00	101.36	0.01	0.01	0.00
100.85	0.00	0.00	0.00	101.37	0.01	0.01	0.00
100.86	0.00	0.00	0.00	101.38	0.01	0.01	0.00
100.87	0.00	0.00	0.00	101.39	0.01	0.01	0.00
100.88	0.00	0.00	0.00	101.40	0.01	0.01	0.00
100.89	0.00	0.00	0.00	101.41	0.02	0.01	0.01
100.90	0.00	0.00	0.00	101.42	0.05	0.01	0.04
100.91	0.00	0.00	0.00	101.43	0.08	0.01	0.07
100.92	0.00	0.00	0.00	101.44	0.12	0.01	0.11
100.93	0.00	0.00	0.00	101.45	0.16	0.01	0.15
100.94	0.00	0.00	0.00	101.46	0.21	0.01	0.20
100.95	0.00	0.00	0.00	101.47	0.26	0.01	0.25
100.96	0.00	0.00	0.00	101.48	0.32	0.01	0.30
100.97	0.00	0.00	0.00	101.49	0.37	0.01	0.36
100.98	0.00	0.00	0.00	101.50	0.44	0.01	0.43
100.99	0.00	0.00	0.00	101.51	0.50	0.01	0.49
101.00	0.00	0.00	0.00	101.52	0.57	0.01	0.56
101.01	0.00	0.00	0.00	101.53	0.64	0.01	0.63
101.02	0.00	0.00	0.00	101.54	0.72	0.01	0.70
101.03	0.00	0.00	0.00	101.55	0.79	0.01	0.78
101.04	0.00	0.00	0.00	101.56	0.87	0.01	0.86
101.05	0.00	0.00	0.00	101.57	0.95	0.01	0.94
101.06	0.00	0.00	0.00	101.58	1.04	0.01	1.03
101.07	0.00	0.00	0.00	101.59	1.13	0.01	1.11
101.08	0.00	0.00	0.00	101.60	1.21	0.01	1.20
101.09	0.00	0.00	0.00	101.61	1.31	0.01	1.30
101.10	0.00	0.00	0.00	101.62	1.40	0.01	1.39
101.11	0.00	0.00	0.00	101.63	1.50	0.01	1.49
101.12	0.00	0.00	0.00	101.64	1.60	0.01	1.58
101.13	0.00	0.00	0.00	101.65	1.70	0.01	1.69
101.14	0.00	0.00	0.00	101.66	1.80	0.01	1.79
101.15	0.00	0.00	0.00	101.67	1.91	0.01	1.89
101.16	0.00	0.00	0.00				
101.17	0.01	0.01	0.00				
101.18	0.01	0.01	0.00				

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Stage-Area-Storage for Pond 3P: Gravel Beer Garden

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
100.67	45	45	0
100.69	45	45	0
100.71	45	46	1
100.73	45	46	1
100.75	45	47	1
100.77	45	47	2
100.79	45	48	2
100.81	45	48	3
100.83	45	49	3
100.85	45	49	3
100.87	45	50	4
100.89	45	50	4
100.91	45	51	4
100.93	45	51	5
100.95	45	52	5
100.97	45	52	5
100.99	45	53	6
101.01	45	53	6
101.03	45	54	6
101.05	45	54	7
101.07	45	55	7
101.09	45	55	8
101.11	45	55	8
101.13	45	56	8
101.15	45	56	9
101.17	2,622	2,634	13
101.19	2,622	2,637	34
101.21	2,622	2,641	55
101.23	2,622	2,645	76
101.25	2,622	2,648	97
101.27	2,622	2,652	118
101.29	2,622	2,655	139
101.31	2,622	2,659	160
101.33	2,622	2,663	181
101.35	2,622	2,666	202
101.37	2,622	2,670	223
101.39	2,622	2,674	244
101.41	2,622	2,677	265
101.43	2,622	2,681	286
101.45	2,622	2,684	306
101.47	2,622	2,688	327
101.49	2,622	2,692	348
101.51	2,622	2,695	369
101.53	2,622	2,699	390
101.55	2,622	2,703	411
101.57	2,622	2,706	432
101.59	2,622	2,710	453
101.61	2,622	2,714	474
101.63	2,622	2,717	495
101.65	2,622	2,721	516
101.67	2,622	2,724	537

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Summary for Link PR: PDA-1

Inflow Area = 0.760 ac, 90.79% Impervious, Inflow Depth > 7.44" for 100-yr event

Inflow = 5.79 cfs @ 12.09 hrs, Volume= 0.471 af

Primary = 5.79 cfs @ 12.09 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR: PDA-1

Hydrograph

